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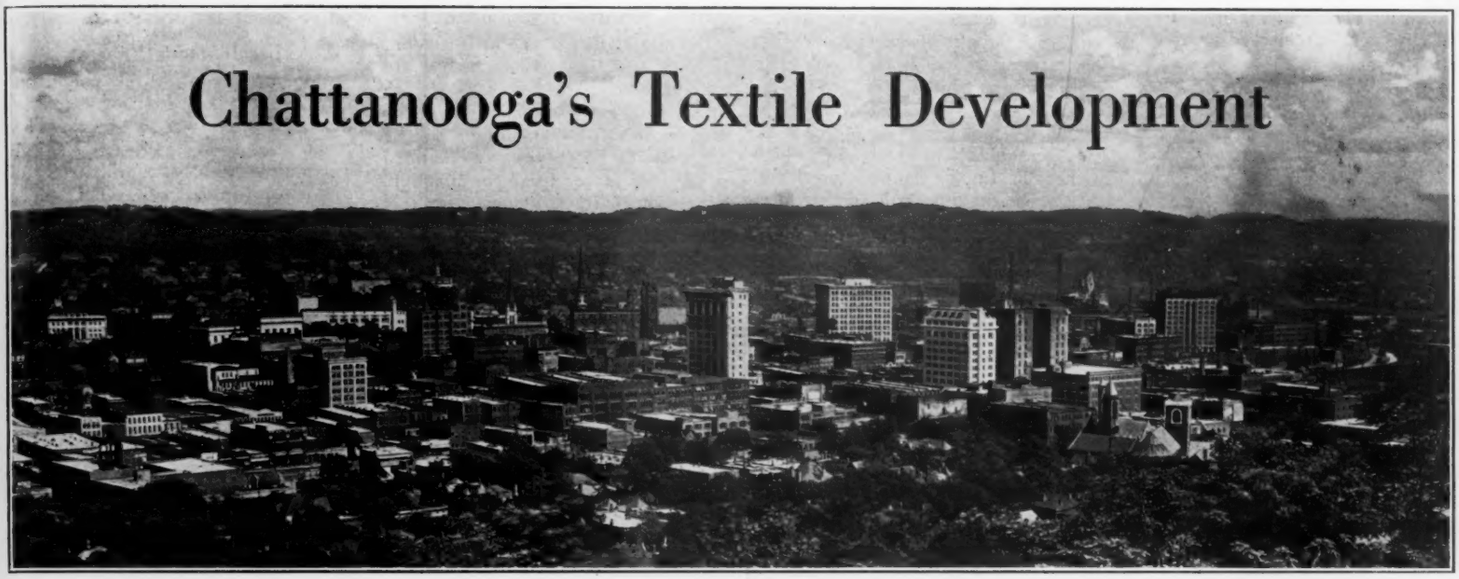
Chattanooga's Textile Development



By Douglas G. Woolf

The writer is not a Chattanoogan; does not own a share of stock in a Chattanooga enterprise (unfortunately); and before his recent visit to Chattanooga knew only one man in the city. He was not subjected to a "booster" campaign but was given every opportunity to study its development and to draw his own conclusions. In fact, local industrialists were more interested in learning his impressions than they were in forcing their own upon him.

Consequently, if he waxes enthusiastic in the accompanying article, it is not due to considerations of civic pride, finances, or drugging effects of hospitality. He is not trying to "write up" a section for the gratification of its natives but to record certain important facts about the Chattanooga district which should be known to everyone interested in the past, present and future of American textile development.

MOST of the great textile centers of the United States have had considerable popular publicity—of one kind or another.

The man in the street knows Paterson as "The Silk City;" Lawrence as a wool manufacturing center; Utica as an underwear district; Philadelphia as a hosiery city and as the home of other remarkably diversified textile industries. More recently the cotton-manufacturing development in the Piedmont section of the South has had its share of front-page spot-light.

There is, however, one geographical phase of textile growth which may not be understood and appreciated as widely as it deserves. That is the development in the Chattanooga (Tenn.) district.

There are probably quite a few of the readers of this article who are not aware that Chattanooga is the second largest hosiery center in the country; that extensions to its yarn mercerizing equipment now underway will place it ahead of the hitherto unchallenged geographical leader; and that Chattanooga is by long odds the greatest yarn distributing center in the South—and is becoming rapidly a worthy competitor of the great yarn merchandising cities of the East.

Ignorance of these facts would not be of great moment if they concerned the city of Chattanooga alone. But when it is realized that it is the hub of a district quite generally acknowledged as the logical challenger for future textile expansion, its significance to the industry as a whole will be appreciated.

To clarify the situation, it should be stated that Chattanooga as a city, and the outlying districts present two distinct problems—and can not be discussed as one.

Chattanooga itself is a great, progressive municipality, industrially prosperous and diversified. It has reached a stage where its further growth demands—and is receiving—the most scientific and painstaking direction. Its possibilities are apparently unlimited, providing enterprises added to it in the future are of the type which will fit in with the Chattanoogan industrial situation as a whole. It is not, for example, a prospective location for cheap cotton hosiery manufacture or for the production of goods like coarse sheetings.

On the other hand, the district within say a 125-mile radius of Chattanooga is comparatively virgin textile territory. It is more or less in the same position as the Piedmont was 20 years ago. Specifically, this district has been localized as extending from Huntsville, Ala., to Knoxville, Tenn., with Chattanooga as a center—but such specific limitations are necessarily meaningless.

Naturally, the growth of this district, although presenting a different problem from that of Chattanooga's progress, depends to a large extent upon the continued development of that and other nearby cities. Consequently it must be remembered that, although this article refers particularly to Chattanooga, the story has a real bearing upon that of hundreds of small towns in Tennessee, Alabama and Georgia—and vice-versa.

Naturally Chattanooga's textile future is of more significance than its past, but a brief resumé of the latter is necessary as a background for an intelligent appraisal of the former.

For a knowledge of this background, the writer is indebted to Herbert S. Thatcher, treasurer of the Standard-Coosa-Thatcher Co., who compiled much valuable historical information preparatory to an address before the Chattanooga Textile Association.

The Woolen Industry

Although the first textile mill of the city was established as far back as 1873, it was not until 1893 that a company was formed which was to become a permanent factor in industrial life. This was the Park Woolen Mills, at Rossville, Ga., six miles from Chattanooga, founded by W. A. and J. A. Campbell, W. F. and John Hutcheson and W. P. Wilson. This was the forerunner of the Chattanoogan woolen industry of today, which comprises the Park Woolen Mills, of which F. A. Carter is now president; the Peerless Woolen Mills, also at Rossville, of which John Hutcheson is president; and the Extract Wool & Merino Co.

Hosiery Industry

Of far greater importance, how-

ever, in its bearing on the future growth of the city, was the establishment of the first hosiery plant, the Chattanooga Knitting Mills, in 1895 by Garnett Andrews and associates. Mr. Andrews is regarded as the father of the hosiery industry in Chattanooga. Today he is actively identified with seven corporations, operating between 15 and 20 mills.

The hosiery industry "caught on" in Chattanooga. It has become the dominating branch of manufacture in that city and, as remarked previously,

Garnett Andrews, President of the Richmond Hosiery Mills, Who was the Pioneer Knitting Manufacturer of Chattanooga

is second only to that of Philadelphia.

The writer took occasion to inquire why knitting developed so rapidly, to the exclusion of other phases of textile production. The best answer he could get was "mass psychology"—the tendency to follow suit in an enterprise which had met with success previously. At any rate there are today in the Chattanooga district approximately 25 well-established and important hosiery mills.

The product of these plants has changed radically, of course. First there was the trend to some extent from cotton hosiery to silk seamless. Today there is an equally important drift toward silk full-fashioned. The first plant of this type to be established in the Chattanooga section was the Magnet Knitting Mills, at Clinton, Tenn., now under construction. The Davenport Hosiery Mills have arranged for an addition to manufacture full-fashioned hosiery, and have ordered the equipment for this purpose. The Richmond Hosiery Mills plan to take such a step within a year. Other similar projects are under way, although definite announcement has not been made as yet.

In connection with knitting, it should be mentioned that, although underwear manufacture has not progressed as has hosiery, there are three successful cotton underwear plants in Chattanooga.

Yarn Mercerizing

Next to hosiery, the most interesting and important development has been yarn mercerizing. Naturally, this was a result of the local knitting growth, since mercerizing plants were established to meet the demand in that city, but these have grown to a point where their product is sold in increasing quantities throughout the country.

The pioneer mercerizer of Chattanooga was the Standard Processing Co., founded in 1912, now one of the plants of the Standard-Coosa-Thatcher Co. A. G. Thatcher, who was associated with the establishment of the first mercerizing plant, is now chairman of the board of the Standard-Coosa-Thatcher Co. The next plant to be established was the Dixie Mercerizing Co., organized in 1919, of which James T. Lupton is now president. At the present time, still another mercerizing plant is under construction, that of the National Yarn & Processing Co., at Rossville, of which T. H. McKinney, formerly general manager of the Dixie Mercerizing Co., is president. The completion of this plant, and of enlargements now underway at the other two plants, will bring the total production of mercerized yarn in Chattanooga to approximately 600,000 lbs. a week—making it the largest geographical factor in that industry.

Yarn Distribution

One other phase of the city's past development which should be emphasized is its growth as a yarn distribution center. This phase has been concentrated almost entirely within the last five years and the peak of its growth has been in the last two or three years. Originally, of course, all the yarn purchases by the knitting mills of Chattanooga were done by wire or through road salesmen of eastern firms. The pioneer in yarn distribution in the city was Tom Moore, who established himself in Chattanooga in 1917 and who now is secretary-treasurer of the newly organized National Yarn & Processing Co. Another of the original yarn men was W. C. Ward, who went to Chattanooga in 1920 and who is one of the members of the Southern Yarn Co. in that city at this time.

In these few years, Chattanooga has become by long odds the greatest yarn distribution center of the South. It is estimated roughly that probably five times as much yarn is sold from its offices as from those of its nearest city competitor. The James Building is a veritable beehive of yarn offices.

Definite statistics as to the amount of yarn sold from Chattanooga are not available. The best estimate the writer could get was somewhere in the neighborhood of one million pounds per week, of which possibly one-third to one-half is for local consumption. No responsibility is assumed for this estimate, which is merely given as an average of guesses made by yarn men interviewed. Another estimate heard was that a total of from seven to ten million pounds of yarn a month of all kinds is used by the textile mills within a radius of 100 miles of Chattanooga, of which of course a considerable portion is purchased from eastern firms.

In this connection it might be interesting to note that Chattanooga is becoming an increasingly competitive center from a yarn distribution standpoint. The remark was often made to the writer by textile manufacturers that they could trade better in Chattanooga than in Philadelphia, for example. At any rate, the number of yarn offices is increasing constantly.

Miscellaneous Phases

In connection with the continued diversification of Chattanooga's textile industries, mention should be made of the organization of the Central Franklin Process Co., which is to build a plant in that city. This addition of a local dyeing service is regarded as a further step in the tendency toward a self-contained industry in that center. Another step pointing in the same direction was the establishment about six months ago of a mill engineering office by J. E. Sirrine & Co. of Greenville, S. C.

Chattanooga's Local Advantages

So much for past development. This is not intended as anything resembling a complete historical account but is merely offered as an attempt to set down in a sketchy way those phases which have particular bearing upon Chattanooga's present and future.

Before considering the future development, it is necessary to refer briefly to certain local conditions which are responsible for the growth of the city and which must be reckoned with in any forecast.

Executive Man Power

The writer wishes to go on record quite dispassionately as stating that, in his opinion, Chattanooga's greatest industrial asset is the character of its executive man power. He met a great many of the textile manufacturers of the city and his outstanding impression was that, for vision and ability, they are not outranked by those of any other textile center which he has visited. It may be just an accident that this type of men has been attracted to Chattanooga or it may be that the city was originally blessed with more than its share of broad-gauged industrialists. Whichever is the case, this asset must be regarded as a most important one.

Civic Attitude

Linked up with the above phase is the characteristic of civic pride which was the second impression in importance made upon the writer. In his opinion, this has not taken the form of undirected boosting but has manifested itself in an energetic but scientific study of local conditions—and translation of the results of that study into careful planning for future development.

As a result, Chattanooga has maintained a commercial and industrial diversification which is responsible for the excellent state of balance existing there. Incidentally it may be expected that, from present plans, this phase will be intensified further in the future.

This study and direction have been conducted by a number of important and flourishing civic organizations, of which ten come to the writer's mind at present. From a textile standpoint, two deserve particular mention, namely the Manufacturers' Association of Chattanooga and the Chattanooga Chamber of Commerce.

The latter body, through its secretary W. H. Longgley, and through its Industrial Board of which C. W. Howard is manager, has resisted the

A Group of Chattanooga's Manufacturing Plants, Other than Textile, Illustrating Industrial Diversification: Wheel and Machine Works; Casey & Hedges Boiler Co.; U. S. Cast Iron Pipe & Foundry Co.

temptation to become one of the "blue sky" type of Chambers. From actual cases which have come to the writer's attention, he knows that this organization has not gone on the principle that its function is to attract industries indiscriminately to Chattanooga, irrespective of their financial and technical standing and irrespective of the degree to which they fit in with local conditions. On the contrary, the Industrial Board has been as discriminating as the membership committee of an exclusive social club.

J. L. Hutcheson, President of Peerless Woolen Mills, Who was One of the Organizers of the First Woolen Mill in Chattanooga

That is why the writer stated that civic pride in that city is not manifested in the form of emotional city boosting.

Labor Supply

As regards labor, Chattanooga shares with the rest of the South the much advertised (but well-warranted) asset of a supply of Anglo-Saxon help with American ideals and more or less unified aspirations. Specifically, the supply from the Tennessee Mountains has not been tapped to the extent to which the supply in the mountain regions above the Piedmont has been drawn upon.

Furthermore, the diversification referred to previously has created a much better condition of balance between male and female help than exists in possibly the majority of Southern manufacturing towns. The effect of this is naturally toward a minimum of labor turnover since families are able to find work for all their members and become settled in the city. The writer has no figures of this particular phase, but his investigation in comparison with other centers which he had visited leads him to believe that turnover there is remarkably low as compared with the majority of the southern industry.

In connection with this same problem it might be stated that textile mills in that city are not burdened with heavy mill village expenditures as are those in most sections of the South. Company houses are the exception rather than the rule. A great many of the employes are individual home-owners—which of course has a corollary reaction on the labor turnover phase.

Power Development

Only brief mention can be made, in this limited space, of the power development which of course has played an important part in Chattanooga's industrial growth. It will possibly suffice to state that in 1924 the total energy output of the power stations of the Tennessee Electric Power Co. was 477,449,302 kilowatt-hours as compared with 227,983,799 in 1914, a gain of more than 100% in ten years; that, through its connections with the other power companies of the South, the company is a part of the great super-power system connecting all of the southeastern States; and that it has pursued a policy of providing ample capacity in steam power stations to supplement the output of its hydro-electric plants during the low water seasons or at other times of necessity, thus assuring uninterrupted operation by its customers.

Only casual reference can also be made to the work of the Tennessee River Improvement Association which has been mentioned in these columns before and which is tied in so closely with the industrial development of the section. It might be mentioned that the flow of the Tennessee River at Chattanooga is three times that of the Ohio River at Wheeling, W. Va. and 900 cubic feet per second greater at Knoxville than is the Ohio at Pittsburgh.

Chattanooga's Present Status

The combination of these and other local assets has resulted in an increase in capital investment in textile plants within the public utilities zone of Chattanooga from approximately $20,000,000 in 1920 to more than $50,000,000 today; and an increase in value of textile products from approximately $40,000,000 in 1920 to more than $55,000,000 today. Textile labor employed has increased in that period from approximately 12,000 to more than 14,000. More important still, the character of the product has advanced and the advance has naturally brought about higher prices.

It is also of interest to note that the writer, during his recent trip South, encountered curtailment as a dominating factor in most phases of the Piedmont but found practically all the textile mills of Chattanooga operating at capacity and many behind in their orders.

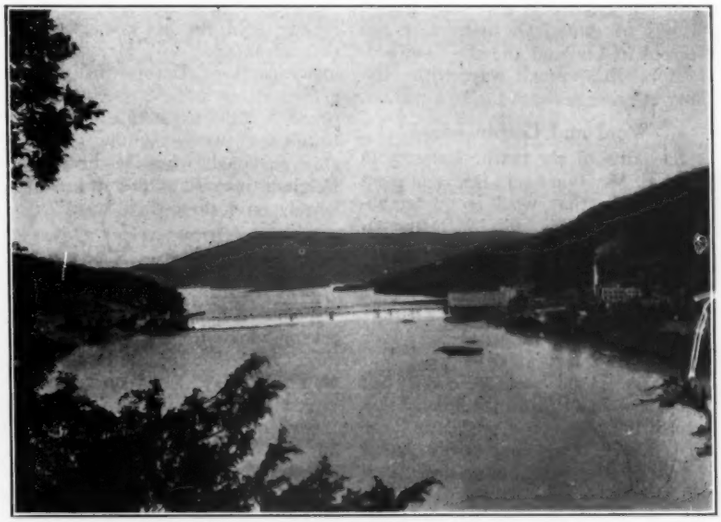
Chattanooga's Textile Future

THIS discussion of the present and the past of Chattanooga's textile industry has been written intentionally in a way which it is hoped will permit the reader to draw his own inferences as to its future. Nevertheless the writer can not refrain from expressing a few personal opinions which he formed during his stay in the city.

First, however, reference must be made to plans of Chattanooga itself through the recently organized Chattanooga Community Advertising Association which has perfected a plan to expend $50,000 a year for five years, plus expense of maintaining an executive secretary, for a scientific publicity campaign for the city.

This organization will undertake to promote five distinct phases of community development: Tourist and convention; residential; industrial; wholesale and retail mercantile trade; agricultural.

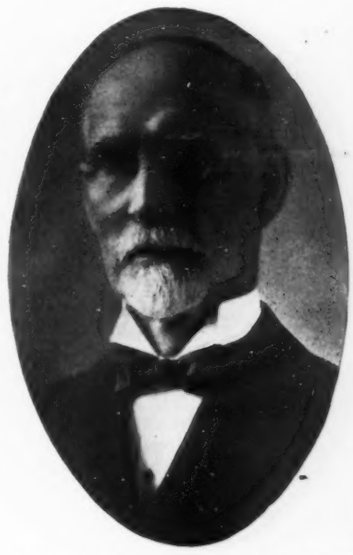
The president of this association is John Lovell, manager of the Patten Hotel, while the executive committee charged with prosecuting the advertising program is composed of: P. J. Kruesi, of the Southern Ferro-Alloys Co. and the American Lava Co.; W. C. Johnson, general manager of the *Chattanooga News;* and Z. C. Patten, Jr., of the Chattanooga Medicine Co. The directorate consists of twelve members, composed of one from each of ten civic organizations and two directors at large.



One of the Important Phases of Chattanooga's Textile Growth: Hales Bar Development of Tennessee Electric Power Co.

The Textile Future

So much for the future of the city as a whole. Speaking specifically from a textile standpoint, it is quite evident that Chattanooga does not want merely an influx of additional textile plants. At its present stage of development, the very worst thing that could happen would be an indiscriminate boom which would attract capital and men from all parts of the country without regard to their absorption by local conditions.



A. G. Thatcher, Chairman of the Board of the Standard-Coosa-Thatcher Co., Who was Identified with the Pioneer Mercerizing Plant of Chattanooga

In the first place, the establishment of male-employing plants of other industries will have to keep pace with textile growth if a balanced condition is to be maintained. Of this fact the city fathers are naturally well aware.

In the second place, as previously mentioned, Chattanooga is not an attractive field for the production of cheap merchandise. There is plenty of room in the outlying districts for this phase of textile growth and it would hurt rather than help the city itself.

In the third place, the most natural development to expect is the establishment of textile plants which will tend to make Chattanooga still more of a self-contained center.

Specifically, the writer would expect to see in that section an increase in cotton spinning; the development of a fine cotton goods weaving industry; increase in high grade underwear manufacture; an expansion of the tendency toward full-fashioned

hosiery production; and the possible establishment of silk throwing plants, of which there is at present one, connected with the Davenport Hosiery Mills. It is impossible, in the space allotted, to dwell upon these individual phases but it might be stated that the logic of this anticipation can be easily maintained and will probably be apparent to the reader.

Coincident with such development would be expected, of course, a development of staple goods manufacture within a radius of say 125 miles of the city.

Two other phases of the future which impress the visitor are probable developments along the lines of improved merchandising methods by the textile mills and expansion of export outlets. At the present time Chattanooga sends to foreign countries a very large amount of hosiery, particularly, and it seems certain that the manufacturers in that section have grasped the importance of developing stable and permanent export outlets.

This whole question of geographical tendencies has become increasingly important during recent years when keener and keener competition has made even slight cost differentials significant factors. Consequently, the development of the Piedmont as a high grade manufacturing section, referred to previously by the writer in another article, and the moving westward of the staple and low grade goods manufacture, with exceptions in the cases of cities like Chattanooga, are tendencies whose importance transcends questions of local interest and makes them vital and current considerations to the entire American textile industry.

Chattanooga's Sky Line, Showing Surrounding Mountains in the Distance

Conditions Abroad

Rodney Willcox Jones Returns from Two Months' Trip

Manufacturers of underwear in England are fully alive to the necessity of keeping their plants and their product fully up-to-date, according to Rodney Willcox Jones, president and general manager of the Augusta Knitting Corp., Utica, N. Y., who returned to this country June 27 on the Acquitania. Mr. Jones, accompanied by his family, made a two months' trip abroad, combining business and pleasure, during which he visited England, Scotland, France, Belgium and Holland.

"If any of our manufacturers," said Mr. Jones this week, "believe that the Englishman is lagging behind in modernizing his equipment and his styles, they are greatly mistaken. Great changes are under way in the English industry—the old methods of slow and inefficient hand finishing, for instance, are rapidly going by the boards."

"We have a lot to learn from England and the Continent in the matter of elimination of wastes in manufacturing," Mr. Jones continued. "I wish I had made my trip many years ago—it would have saved me real money."

U. S. Ahead in Rayon

Mr. Jones brought back with him a number of interesting ideas regarding the general industrial situation in England and the Continent. Speaking specifically of underwear, he said we are considerably ahead of England in the manufacture of rayon garments, where production is still largely confined to coarse gauge fabrics. He expressed the opinion that we cannot expect to develop business with England in rayon underwear because of the low prices at which English goods are sold.

Development of the use of rayon in England has not yet reached the stage to which we have brought it in the United States, Mr. Jones said, but the English manufacturer is fully alive to its possibilities.

TEXTILE BALANCE OF TRADE

	May, 1925	May, 1924	11 Months Ended May, 1925	11 Months Ended May, 1924
EXPORTS				
Manufactures of—				
Cotton	$12,936,394	$11,601,496	$137,074,017	$116,355,041
Wool	429,385	525,910	4,922,676	7,390,027
Silk	1,786,844	1,198,158	14,488,058	10,935,177
Rayon	1,009,067	638,976	8,381,146	5,362,926
Jute, flax, hemp, etc.	916,862	924,859	11,312,835	11,550,215
Total Exports	$17,078,552	$14,889,399	$176,178,732	$151,593,386
IMPORTS				
Manufactures of—				
Cotton	$5,523,478	$6,551,122	$82,057,262	$85,294,866
Wool	3,938,423	3,748,673	51,550,197	48,475,094
Silk	2,618,505	2,821,975	34,246,387	38,110,017
Rayon	671,854	404,197	7,717,080	6,965,875
Jute, flax, hemp, etc.	12,895,274	11,531,368	129,422,364	109,656,803
Total Imports	$25,650,534	$25,057,335	$304,993,290	$288,502,655
Excess of Imports over Exports	$8,581,982	$10,167,936	$128,814,558	$136,909,269

"Incidentally," said Mr. Jones, "during my visit of three or four weeks in England I don't believe I heard the word 'rayon' used once by an Englishman. 'Artificial silk' continues in vogue there."

Mr. Jones returned to this country with the conviction that well known brands of American underwear can be sold in England and the Continent in a relatively small way, with Holland offering perhaps the best market.

Wool and Cotton Ideas

Speaking of the textile industry in general, Mr. Jones said best sentiment abroad was that wool is on an approximately stable basis, with fluctuations of only a minor nature likely for the immediate future. He was unable to find a single Englishman who would admit that he was caught with stocks of wool when the break came early this year.

So far as he could discover, Mr. Jones said, well informed Englishmen expect the new American cotton crop to sell on a basis of roughly 22-23c for middlings. He found a great deal of resentment against the premiums that have been charged for staple cottons during recent months.

The significance of England's return to a gold basis has not been fully appreciated in this country, according to Mr. Jones. This step will undoubtedly handicap Great Britain, at least temporarily, in the rebuilding of her export trade.

"The Continental manufacturer who can pay his labor in paper money and receive gold for his goods enjoys a real advantage," said Mr. Jones. "In many parts of Europe the rich are getting richer and the poor are getting poorer. English textile mills, both cotton and wool, continue considerably curtailed, while in France and Belgium manufacturers are running largely on a three-shift basis."

May Wool Consumption

WASHINGTON, D. C.—The Department of Commerce announces the consumption of wool, by manufacturers in the United States during the month of May, based on reports received from 553 mills. This is exclusive of 20 which failed to report the consumption of wool for this month. The total quantity of wool entering into manufacture during May, 1925, as reported, was 32,146,479 lbs. as compared with 36,774,153 lbs. in April, 1925, and 30,472,849 lbs. for May, 1924. The consumption shown for May, 1925, included 24,726,194 lbs. of wool reported as in the grease; 5,439,746 lbs. of scoured wool; and 1,980,539 lbs. of pulled wool. Reduced to a grease equivalent these quantities would amount to 38,246,404 lbs. The grease equivalent for April, 1925 was 43,286,554 lbs. and for May, 1924, 36,507,484 lbs.; for last January, 51,434,850; February, 46,415,269; and March, 45,853,420. Of the total quantity of wool used during May, 1925, 13,623,224 lbs., or 42.4%, was domestic wool; and 18,523,255 lbs. or 57.6%, was foreign wool. The following table shows the quantities of wool consumed in pounds, classified according to grade:

Class and Grade	Total for May, 1925	Total Jan. to May incl. 1925	1924
Total	32,146,479	192,462,733	197,541,765
Domestic	13,623,224	86,862,969	86,010,914
Foreign	18,523,255	106,599,764	111,530,851
Combing[1]	14,554,373	94,107,754	101,920,376
Clothing[1]	6,664,014	35,386,590	38,745,678
Fine, total	6,833,486	41,479,661	42,520,360
½-blood, total	2,828,245	20,113,843	23,101,205
⅜-blood, total	6,643,170	29,100,708	30,212,669
¼-blood, total	4,501,286	28,578,026	34,551,269
Low, ¼-blood[2]	688,898	6,384,362	6,114,168
Common, total[3]	175,043	946,443	928,588
Braid, total[3]	41,366	167,609	375,552
Lincoln, total[4]	506,893	2,723,692	2,862,242
Carpet, total[4]	10,928,092	62,968,389	56,875,711
Total, reduced to grease equiv[5]	38,246,404	225,236,497	232,977,147
Domestic	17,765,350	107,987,906	108,302,043
Foreign	20,481,054	117,248,591	124,475,104

[1] Exclusive of carpet wools. [2] Figures previous to July, 1923, include "Common" and "Braid." [3] All domestic. [4] All foreign. [5] In computing the grease equivalent, 1 lb. of scoured wool is considered equivalent to 2 lbs. in the grease; and 1 lb. of pulled, to 1-⅛ lbs. in the grease.

Waterloo Mill Resumes

The plant of the Waterloo (N. Y.) Textile Corporation started upon Tuesday of this week after a shutdown caused by a strike of weavers for a 20% increase in pay and changes in the work. No change in the rates of pay on piece work has been made, but an allowance is made on certain work which will be changed or discontinued.

*ABERDEEN, MD. The machinery, formerly the property of the Maryland Finishing Corp., was sold as one lot to the Philadelphia (Pa.) Dyeing & Finishing Co., for $9,000, at public auction conducted by M. Fox & Sons Co., auctioneers, Baltimore, on June 30. The real estate was not sold.

Editors
Charles H. Clark Vernon E. Carroll
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EDITORIAL

We Believe
in the Conservation and Protection
of Domestic Industries

Graft in Supply Purchases

"INFORMATION reaching me is to the effect that graft in the sale of dyes is increasing," stated Dr. C. H. Herty, president of the Synthetic Organic Chemical Manufacturers' Association, in an address before that organization printed in last week's issue of TEXTILE WORLD.

"We believe that graft has steadily decreased and that it will continue to decrease," stated one of the editors of TEXTILE WORLD in a letter to a reader, published in this same issue.

This apparent conflict of opinion is not the important consideration in this connection. The elimination of such graft—big or little—is the real issue.

Dr. Herty evidently was referring to a recent trend while the TEXTILE WORLD editor was comparing conditions in general with those which existed before the war. Those who are familiar with the situation at that time probably need no additional proof of the rottenness which existed in the purchase of dyes, chemicals and other mill supplies. It is interesting, however, to refresh our memories with the testimony given by Joseph H. Choate, Jr., at the dye hearings before the Senate Finance Committee on Dec. 9, 1919.

Mr. Choate read into the record a portion of an article in the *Quarterly Review* written by C. H. Burr, lawyer. This article reviewed the dissension which developed in a meeting of the directorate of one of the two great German dye cartels (since amalgamated into one) over the question of appropriation for "graft." The row was not concerned with the ethics of graft or with the extent of expenditure—but involved the question whether the appropriation for this important part of the business was reaching the right parties. As a result of this discussion, the following resolution was adopted:

> *"Resolved*, That henceforth bribery shall be abolished, except in the United States and in Russia."

* * *

Into this situation came a remedial force. The Textile Alliance, Inc., was organized for the purpose of eliminating graft, as indicated by the testimony of A. M. Patterson, president, before a sub-committee of the Senate Committee on Judiciary, on March 3, 1922. Mr. Patterson read the purpose of this corporation as follows:

> "The particular objects for which the corporation is to be formed are: The protection of mill owners and operators from, and the prevention and reform of, abuses, unjust and unlawful exactions, deceptions and frauds in the manufacture and sale of mill supplies—and the prosecution of unlawful, illegal and improper actions, misdemeanors and crimes in connection therewith."

Through this agency, in combination with a perfection of personnel organization methods among dye users, and coupled with the action of the Federal Trade Commission, real progress has been made in correcting this evil.

* * *

If however, as Dr. Herty states, it is showing its head again, the textile industry has no greater job on its hands than its elimination.

A two-fold remedy has been suggested by TEXTILE WORLD.

The first phase is the enactment of a Federal commercial bribery law. Such a bill died in the last session of Congress but will be re-introduced at the next session and will have the vigorous support of a large number of important interests, allied under the banner of the Commercial Standards Council. A law with "teeth" is required to back up the work done by the Federal Trade Commission. Fear of immediate conviction—and the example of a few convictions—will work wonders.

The other remedy—and one which has been operative to a marked extent in recent years—is the perfection of mill personnel organization and the centralization of purchasing under the visé of competent and forceful chemists.

Unfortunately, however, not every mill is large enough to afford a chemist of its own—or at least a chemist with the proper background to enable him to serve adequately. The suggestion has been made by Dr. Herty to one of the editors of TEXTILE WORLD that the industry organize a centralized testing house which shall serve all mill subscribers on a prorata basis and which may be depended upon to supply accurate, scientific information on samples or shipments of dyes and other supplies offered to—or purchased by—the mills concerned.

Space does not permit an adequate exposition of this suggestion but a little thought should convince manufacturers that some such program is essential.

It is of no avail to condemn dye manufacturers and dealers. One weak link in the distribution system will defeat the strength of a majority of ethical, honest firms. And the weakest link has been supplied by those textile manufacturers who wink the eye at practices they know are going on in their own organizations.

The purchase of dyes, chemicals and finishing compounds is a scientific problem. Until it is placed in the hands of capable scientists, graft will prevail.

* * *

Want No Government Control

CABLE advices from Australia and England are to the effect that there is very general opposition among wool growers and the wool trade to that part of the cooperative scheme for the stabilizing of prices and the marketing of the Australian wool clip proposed by Sir John Higgins, chairman of the Melbourne Board of Bawra, that involves government financing and the control of exporting under a system of government licenses. So strong is this opposition to anything savoring of government control that it is reasonably certain that no cooperative marketing plan designed to handle the major portion of the Australian clip can be put through. The statement is made thus broad because it will require approximately 50,000,000 pounds sterling to finance the annual clip, and because the raising of such an enormous sum without government assistance and the government control that would necessarily accompany such financing or guarantees, is out of the question.

If the reaction of the wool trade in this country is desired to any such scheme it may be stated that it is even more violently opposed to government control of merchandising than are members of the wool trade abroad. Free trading in wool at the coming London and Australian sales with no more than normal restriction of offerings are the most adequate agencies for the eventual stabilizing of world wool values.

* * *

Progress of Committee D-13

TEXTILE WORLD takes a pardonable pride in the fact that its belief in the potential value of the work of Committee D-13 of the American Society for Testing Materials is being justified to a noteworthy degree.

At the time of the organization of that committee in 1915, there was considerable doubt in the society itself and in the textile industry as to its possibilities. A. S. T. M. members questioned the place which textiles had in an organization whose major interests were steel, concrete and other engineering materials. During the committee's formative years, the fact that its efforts were largely in the field of mechanical fabrics aroused doubt in the industry as to its possibilities of general interest.

The editors of TEXTILE WORLD, however, recognized the need of standard specifications and test methods for textiles and also recognized the necessity for a great amount of slow, uninteresting and unspectacular preliminary work. Consequently they have consistently devoted more space to this committee's activities than some of TEXTILE WORLD's readers may have deemed warranted.

Today the doubters in the A. S. T. M. itself have been converted and are marveling at the growth of Committee D-13 and the increasing value and comprehensiveness of its work. The textile industry is also taking a constantly greater interest in its activities.

The committee now has a membership of 134 and is tackling new branches of the industry such as knit goods, narrow fabrics, wool, rope and cordage, asbestos textiles, rayon, etc. In the latter field alone, the committee has an opportunity to more than justify its existence.

Furthermore its members are taking an in-

creasing interest in the work, as revealed by percentage returns on questionnaires—and its standards are finding an ever-widening application.

The latest progressive move has been the decision to hold the fall meeting of Committee D-13 in the South—a pioneer step among the committees of the A. S. T. M.

In view of all these facts, TEXTILE WORLD congratulates the committee and those who have been active in its work. Its editors have never made the foolish mistake of confusing testing and standardization with fundamental research—but recognize the indisputable need for this painstaking work as a background for broader and more far-reaching programs.

* * *

British Tariff Protection

DESPITE strenuous opposition of Lancashire and Yorkshire textile manufacturers, irrespective of party affiliations, the import duties and excise taxes on silk and artificial silk and their manufactures, carried by the new budget sponsored by Chancellor Chamberlain, Premier Baldwin and the Conservative government, became effective July 1, in much the same form as originally introduced and the budget also carried an import tax of 33⅓% ad valorem on laces. The only important change in the duties since their original inclusion in the budget has been the development of a rather complicated system of drawbacks that are designed to compensate for excise taxes and customs duties paid on raw materials that are components of finished goods exported.

If in their administration these drawbacks prove to be adequate and without serious inconvenience or disturbance to the trade it is possible that present opposition of cotton and wool manufacturers who make use of large quantities of silk and artificial silk will be lessened, but at the moment their protests against the duties is just as loud as are those of leaders of the Liberal and Labor parties. Incidentally, it may be stated that artificial silk manufacturers have expressed themselves as quite as strongly opposed to the duties as are cotton and wool manufacturers, the only strong textile supporters of the Conservative party's effort to raise revenue in this manner and reduce direct taxes being the silk, hosiery and lace manufacturers.

That these silk, artificial silk and lace import duties represent real adventure by the British government and the British textile industry in tariff protection there can be no question; as to whether it will prove as effective in a country which exports 80 to 90% of its manufactures as in one that consumes fully 90% of its products is, however, open to question. It is interesting to note in this connection that one domestic hosiery mill that had developed a considerable business in rayon goods in England has decided to open a branch mill in that country in order to conserve its trade, and further similar accessions to British industry from this and other countries might enable Premier Baldwin to point with sufficient pride to the beneficent effect of his protective policy as to eliminate opposition to this policy from within the Conservative party at least.

Chairman Green Opposes Tariff Revision

WASHINGTON, D. C.—Tariff revision by the next Congress has been opposed in a statement issued by Chairman Green, of the Ways and Means Committee of the House.

"It ought to be remembered," he said, "that a general revision of the tariff in an off-year, between presidential elections, has always proved disastrous politically to the party that undertook it, with the result that it has lost the House at the next election.

"The present tariff has worked well, and has not unduly restricted our buying or selling, for our exports and imports are both more than twice the value of what they were before the war and in quantity they largely exceed the amount of that period. The revenue brought in by the present law is more than twice that produced by any other bill in normal times. Why not let well enough alone?"

Wool Goods Packing

Hearing on Request for Change to be Held at Atlantic City

A situation has arisen in connection with the packing requirements for woolen goods in bolts, which is of interest to many in the dry goods field. A change has been proposed in the freight classification entry covering Dry Goods, N. O. I. B. N., as follows:

Wool Goods in Bolts come under the freight Classification of Dry Goods, N. O. I. B. N., and as such may be shipped "in bales." The term "in bales" includes the use of corrugated or solid fibre containers not conforming to the requirements of Freight Classification Rule 41, as to dimension limit, weight limit, etc., such containers to be securely corded or metal-strapped. The present wording of the item is as follows:

"DRY GOODS, N. O. I. B. N., in

(*Continued on page 68*)

Retentions vs. Wool Consumption

Further Analysis of World Figures in the Goldman-Goldfinch Controversy

*By William Goldman**

IT IS now apparent that the interchange of opinion between Sir Arthur Goldfinch and myself regarding the statistical position of wool to which TEXTILE WORLD has given space during recent months, cannot profitably be carried further at this time, but in view of a new angle introduced into the controversy by Sir Arthur Goldfinch in his TEXTILE WORLD article of June 6, I feel that it is important at this time to clear the air a bit and show just what the controversy has definitely disclosed.

Sir Arthur Goldfinch has for several years issued a statement during the first half of the year in which he has estimated the consumption for the preceding year. His estimate for 1921 was 2650 million pounds; 1922, 3000 million pounds; 1923, 2850 million pounds; a total for the three years of 8½ billion pounds. While Sir Arthur at all times referred to this as a machinery consumption of wool for the world, he at the same time called attention to the fact that inasmuch as this was an average of 2850 million pounds per year, it was more than 300 million pounds above the annual production, and that therefore we were eating into the world's wool supply at the rate of more than 300 million pounds a year. I challenged this statement and claimed that Sir Arthur had overestimated the consumption for this period by 1000 million pounds.

In the interchange that has followed Sir Arthur has called my attention to the fact that I had not included the Bawra wool in England on Jan. 1, 1921 that was used in these three years—1921, 1922 and 1923—to the extent of 390 million pounds. I had however included mohair and other hairs in my figures, which gave me a 90 million pound offset as against this omission on my part. So Sir Arthur has succeeded in showing that I was wrong to the extent of 300 million pounds.

Restocking Figures

He has likewise challenged my figure of 400 million pounds for the restocking of Europe, and has stated that it should be 200 million pounds. Without again going into the question of whether he is or I am right in this connection, may I point out that my retention figures for England, France and Germany for the three years are 205 million pounds more than Sir Arthur Goldfinch's, and that therefore on Sir Arthur's own figures I can afford to accept his estimate of 200 million pounds for the restocking of Europe without in any way altering my totals of the machinery consumption for the world. I might add that I have recently been making some investigation as to this discrepancy between my figures for England, France and Germany and Sir Arthur Goldfinch's, and inasmuch as I find that the Department of Commerce is using the same figures for England as Sir Arthur Goldfinch uses, his are evidently correct, and I have in some way exaggerated the retentions of England, no doubt due to the way I figured sheepskins.

The same is true of France. He has made a considerable allowance in the retention figures in figuring sheepskins, and I bow to his superior knowledge and accept therefore his figures instead of my own as more accurately reflecting the actual retentions of these countries.

There is only one other item over which there can possibly be any dispute between us, and that is as to the inclusion by me of the Turkish production of 180 million pounds over the three years in my figures for wool production, which I have however offset by reducing the allowance for

(*Continued on page 153*)

* Of Cohen, Goldman & Co., Clothiers, New York.

TEXTILE CALENDAR

National Knitted Outerwear Association, Annual Convention, Hotel St. George, Brooklyn, N. Y., July 9-11, 1925.

American Association of Textile Chemists and Colorists, Southern Section, Summer Meeting, George Vanderbilt Hotel, Asheville, N. C., July 18, 1925.

Wholesalers Association of Dress Fabric Buyers, Mid-Year Meeting, Waldorf-Astoria Hotel, New York, Aug. 11, 1925.

Made-in-Carolinas Exposition, Charlotte, N. C., Sept. 21-Oct. 3, 1925.

Southern Wholesale Dry Goods Association, Divisions 1 and 2, Meeting and Dinner, Charlotte, N. C., Sept. 24, 1925.

Tenth Exposition of Chemical Industries, Grand Central Palace, New York, Sept. 28-Oct. 3, 1925.

Committee D-13, American Society for Testing Materials, Fall Meeting, Greenville, S. C., Oct. 5-6, 1925.

Exhibit of Textiles Made in New England, Boston Art Club, Boston, Mass., Oct. 7-24, 1925.

National Association of Cotton Manufacturers, Annual Convention, Copley Plaza Hotel, Boston, Oct. 14-15, 1925.

Knitting Arts Exhibition and Annual Convention of National Association of Hosiery & Underwear Manufacturers, Philadelphia, March 22-26, 1926.

International Textile Exposition, Textile Exhibitors Association, Mechanics Hall, Boston, April 12-17, 1926.

National Association of Cotton Manufacturers, Spring Meeting, Boston, Mass., April 13-14, 1926.

Committee D-13 Meets at Atlantic City

Decides to Hold Fall Meeting at Greenville, S. C., Oct. 5 and 6—New Sub-Committee on Rayon Holds Organization Meeting—Three New Tentative Standards Submitted to Society—Five Tentative Standards Advanced to Standard—Revisions in Other Specifications

DECISION to hold its fall meeting in Greenville, S. C., Oct. 5 and 6; organization of its new sub-committee on rayon; formation of a new sub-committee on single yarn fabrics; and submission of its annual report to the society—including recommendation of three new tentative standards, advance of five tentative standards to standard, and revisions in other specifications—were among the features of the meeting of Committee D-13 of the American Society for Testing Materials, held at Atlantic City, N. J., Thursday of last week in connection with the annual meeting of the society.

To Meet in South

The holding of its fall meeting in the South promises to be a step of extreme significance, not only to Committee D-13 itself, but to the society as a whole. This is the first committee of the organization to recognize the growing importance of that section in this way—and it is believed that Committee D-13 is blazing the way for southern meetings of other committees of the society. From a textile standpoint, it is regarded as important to tie up the work of Committee D-13 with the efforts of technical men in southern mills, and expressions received from that section indicate a hearty response to this move.

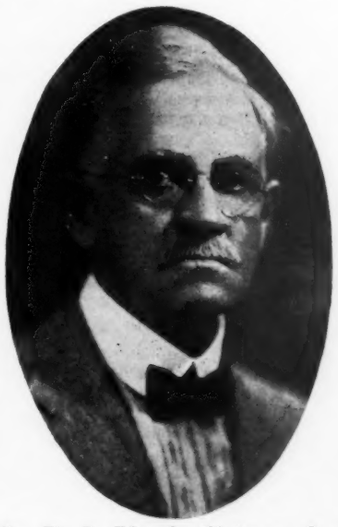
Northern members will probably leave New York on Sunday, Oct. 4, arriving at Greenville Monday noon. In the afternoon and evening, acquaintance meetings will be held, leaving the transaction of the committee's business to Tuesday's sessions. Residents of Greenville through their civic organizations are prepared to offer side attractions for as many additional days as individual members feel they can devote. These include a trip to the mountains, with a barbecue as a feature; visits to textile mills in the vicinity; and entertainments for ladies who accompany the members.

The outlining of definite details for this meeting has been left to the special sub-committee which recommended Greenville as the location. A. E. Jury, of the U. S. Rubber Co. and former chairman of Committee D-13, is chairman of this special sub-committee.

To Develop Rayon Standards

Another development of inportance was the holding of an organization meeting of the new Sub-Committee XV on Rayon, of which A. M. Tenney, of Wellington, Sears & Co., is chairman. The ever-increasing significance of rayon in connection with textile manufacture and processing, makes the work of this new sub-committee extremely valuable potentially.

It was interesting to note that representatives of rayon producers outnumbered those of consuming firms at the organization meeting. Manu-



Dr. W. F. Edwards, Chairman, Committee D-13

facturers of every type of rayon are now represented on the sub-committee and in addition appointments have been made from every important branch of the consuming industries.

Initial discussion revealed the necessity of a ground-work of fundamental investigation. The utilization of rayon has advanced so rapidly that consumers are working in the dark on many phases of the subject.

A tentative outline of the sub-committee's work covers the following general topics:

1. Definitions.
2. Classification.
3. Identification.
4. Yarn Standardization and Testing.
5. Number of Filaments.
6. Moisture Content.
7. Strength.
8. Use of Oil on Rayon.
9. Use of Dyes on Rayon.

A meeting of the sub-committee will be held shortly and a questionnaire developed which will draw out a consensus of opinion on these important points.

A New Sub-Committee

Another move, announced by Dr. W. F. Edwards, of the U. S. Testing Co. and chairman of Committee D-13, was the formation of Sub-Committee XVII on Single Yarn Fabrics. Russell T. Fisher, of the National Association of Cotton Manufacturers and vice-chairman of Committee D-13, was appointed chairman of this new sub-committee.

Sub-Committee Reports

Progress reports from various sub-committees were read by Dr. Edwards, indicating that work along different lines is being developed rapidly.

One of these was from Sub-Committee VIII on Humidity which is investigating the very difficult subject of regain, and is also studying the effect of moisture on the different types of rayon.

Nomenclature and Definitions

An important and detailed progress report was read by D. E. Douty, of the U. S. Testing Co., chairman of Sub-Committee V on Nomenclature and Definitions. It is the consensus of opinion in this sub-committee that the tentative definitions of terms relating to textile materials should be expanded into a comprehensive dictionary of definitions and terms now used in Committee D-13. Consequently the report presented a suggested outline, the changes in which were largely those of editorial arrangement.

Russell T. Fisher, First Vice-Chairman, Committee D-13

This outline covers four general classifications:

1. General definitions pertaining to conditions, equipment and methods of test as related to textiles.
2. Terms pertaining to textile fibres and raw materials.
3. Terms pertaining to yarns, cords and threads.
4. Terms pertaining to fabrics.

The report was not acted upon but was merely offered as something to "shoot at." The sub-committee will develop its work along these lines during the coming year.

Narrow Fabrics Report

Another comprehensive progress report was that of Sub-Committee XIII on Narrow Fabrics, presented by W. H. Moore, of the General Electric Co., chairman. This report contained an analysis of answers to a questionnaire which was prepared to elicit information as to the necessary characteristics which should be covered by a specification on narrow fabrics.

There were two significant angles to this report. First, it represented the extremely gratifying response of 70% of the members of the sub-committee. Second, it showed the wide discrepancy of opinion existing regarding the data which it is necessary to secure—and consequently the urgent need of fundamental and intensive work by the sub-committee.

This, too, was a report to be "shot at" and to be used as a basis for the year's activities.

Gratifying Response

In connection with response to questionnaires, the interesting fact was brought out that K. B. Cook, of the U. S. Rubber Co. and secretary of Committee D-13, received an 84% return on a questionnaire sent to members to determine the extent to which A. S. T. M. specifications are being used. The response also indicated a noteworthy increase in the utilization of these standards.

Annual Report Submitted

The annual report of Committee D-13, which was submitted to the society on Friday by Dr. Edwards and adopted, included three new tentative standards: Tolerances for numbered duck; tolerances and test methods for knit goods; methods of testing grease wool and allied fibres for scoured content.

K. B. Cook, Secretary, Committee D-13

The report also recommended that the following five tentative standards be advanced to standard: Tolerances for hose ducks and belt ducks; tolerances and test methods for electrical cotton yarns; imperfections and tolerances for square-woven tire fabrics; imperfections and tolerances for cord

tire fabrics; specifications and tests for Osnaburg cement sacks.

In addition, the report recommended revisions on other tentative standards of Committee D-13. This report is printed below.

Report of Committee D-13

COMMITTEE D-13 on Textile Materials held two meetings during the past year. The fall meeting was held in Providence on Nov. 14 and 15 immediately following the meeting of the National Association of Cotton Manufacturers in Boston. The spring meeting was also held at Providence on March 6 and 7. Both meetings were well attended by members and guests.

Four new sub-committees were organized during the past year:

Sub-Committee XIII on Narrow Fabrics;

Sub-Committee XIV on Rope and Cordage;

Sub-Committee XV on Rayon (Artificial Silks);

Sub-Committee XVI on Asbestos Textiles.

Sub-Committee XIII divided its work into elastic and non-elastic narrow fabrics and confined its efforts for the present to the latter. This sub-committee has held several meetings and has done a great amount of work but is not yet prepared to submit a tentative standard.

Sub-Committee XIV on Rope and Cordage and Sub-Committee XV on Rayon (Artificial Silks) and Sub-Committee XVI on Asbestos Textiles have outlined the work to be undertaken during the coming year and in each case it was decided to first cover definitions and nomenclature and requirements for test methods and tolerances. The work of these three sub-committees will broaden the scope of the work of Committee D-13 by entering three branches of the textile industries heretofore untouched by the committee.

Committee D-13 submits to the society three new tentative standards:

1. Tentative Specifications for Tolerances for Numbered Duck.
2. Tentative Specifications for Tolerances and Test Methods for Knit Goods.
3. Tentative Methods of Testing Grease Wool and Allied Fibres for Scoured Content.

The first has been given very careful consideration and in the main has been formulated long enough to get any adverse reactions from try-out and seems to be quite satisfactory. The second also has been given careful consideration but has not been formulated long enough to have the reactions from a try-out that are desirable. The third has not received as much attention from the sub-committee as the first two and may be subject to a very considerable criticism and revision, but it seemed advisable to publish it in order to get a general reaction from the committee.

Committee D-13 recommends that five tentative standards be advanced to standard as follows:

1. Tolerances for Hose Ducks and Belt Ducks;
2. Tolerances and Test Methods for Electrical Cotton Yarns;
3. Imperfections and Tolerances for Square-Woven Tire Fabrics;
4. Imperfections and Tolerances for Cord Tire Fabrics;
5. Specifications and Tests for Osnaburg Cement Sacks;

All five of these tentative standards have been long enough before the committee to warrant that they will be found satisfactory in general use both to producer and consumer.

The Tentative Specifications for Tolerances for Hose Ducks and Belt Ducks and the Tentative Specifications for Tolerances and Test Methods for Electrical Cotton Yarns are being recommended for advancement to standard in their present form with the exception of a slight change of wording in the definition for "Direction of Twist" appearing in the latter specifications, making the definition read as follows:

"*Direction of Twist.*—In the case of yarn, the yarn has right-hand twist if, when it is held vertically, the spirals or twists are seen to incline upward in a right-hand direction, and has left-hand twist when the spirals or twists are seen to incline upward in a left-hand direction."

In the case of the other three tentative standards, however, certain revisions are recommended as follows:

Tentative Specifications for Imperfections and Tolerances for Square-woven Tire Fabrics (D122–23 T).—

Section 7.—Change to read as follows by the addition of the italicized words and figures and the omission of those in brackets:

"On a basis of [four] *two* major defects or [twenty] *ten* minor defects, or any combination of these, being permissible in a roll of 100 sq. yd., the scoring shall be as follows:
Deduct [25] *50* from 100 for each major defect in 100 sq. yd.
Deduct [5] *10* from 100 for each minor defect in 100 sq. yd.
Add the remainders, which sum shall be the score."

Section 9.—Change the examples given in Section 9 to agree with the change in Section 7 given above.

Section 15.—Change the permissible tolerances on bow from 0.75% to 0.65%.

Section 16.—Change the allowable variation on off-square from 3% to 2%.

Section 17.—Change the permissible variation on thickness from 5% to 4% in the case of combed staple and from 7.5% to 5.5% in the case of carded staple.

Section 19.—Add a new Section 19 on twist to read as follows:

"19. *Twist.*—The average ply twist found by test shall not vary more than 5% over or under the specified twist."

Some few changes in the definitions appearing in these specifications are being made at the suggestion of Committee E-8 on Nomenclature and Definitions, but these changes are all matters of form, the substance being not involved.

Tentative Specifications for Imperfections and Tolerances for Cord Tire Fabrics.

Section 7.—Change to read as follows by the addition of the italicized words and figures and the omission of those in brackets:

"On a basis of [four] *two* major defects or [twenty] *ten* minor defects, or any combination of these, being permissible in a roll of 100 sq. yd., the scoring shall be as follows:
Deduct [25] *50* from 100 for each major defect in 100 sq. yd.
Deduct [5] *10* from 100 for each minor defect in 100 sq. yd.
Add the remainders, which sum shall be the score."

Section 9.—Change the examples given in Section 9 to agree with the change in Section 7 given above.

Section 15.—Change the permissible variation on thickness of cord made of carded staple from 5% to 4%.

Some few changes in the definitions appearing in these specifications are being made at the suggestion of Committee E-8, but these changes are all matters of form, the substance being not involved.

Tentative Specifications and Tests for Osnaburg Cement Sacks.—

Section 5.—Change the present Section 5 to Section 5 (*a*) and add a new Paragraph (*b*) to read as follows:

"The weight shall be determined under prevailing atmospheric conditions except in the settlement of disputes, in which case the test for weight shall be made upon material having a normal moisture content obtained by exposure for at least 4 hours to an atmospheric condition of 65% relative humidity at a temperature of 21° C. (70° F.)."

Section 7.—Change to read as follows by the addition of the italicized words and the omission of those in brackets:

"(a) The *average* strength in both the warp and filling shall be *not less than that specified by the purchaser.* [75 lb. with a tolerance of not more than 5 lb. under the desired tensile strength.]

"(b) *The tensile strength shall be obtained on an approved type of inclination balance machine, motor driven.* The tensile strength shall be determined under prevailing atmospheric conditions except in the settlement of disputes, in which case the test for tensile strength shall be made upon material having a normal moisture content obtained by exposure for at least 4 hours to an atmospheric condition of 65% relative humidity at a temperature of 21° C. (70° F.)."

The Tentative Definitions of Terms Relating to Textile Materials and the Tentative Methods of Testing Cotton Fibres are recommended to remain another year as tentative without change. The Tentative Specifications for Toler-

(*Continued on page 79*)

New Firm Acquires Metz Business

General Dyestuff Corp. Takes Over Central and Consolidated Also—H. A. Metz President—Ludwig Brings Cassella Agency

AN event of importance in the dyestuff trade has been the organization of the General Dyestuff Corp. 122 Hudson Street, New York, which has acquired the dyestuff business heretofore carried on by H. A. Metz & Co., Inc., the Consolidated Color & Chemical Co., and the Central Dyestuff & Chemical Co., together with their stock of dyestuffs.

In addition to its acquisition of the two American dye plants mentioned above, this new corporation will represent two important members of the German Cartel. It will act as the sole importer of the dyestuffs manufactured by the Farbwerke, vormals Meister Lucius and Bruening of Hoechst a/M Germany. The company has also acquired the agency for the Cassella products, since B. A. Ludwig, formerly vice-president of the National Aniline and Chemical Co., Inc., who was recently appointed the sole importer of the products manufactured by Messrs. Leopold Cassella & Co., of Frankfurt, Germany, has joined the General Dyestuff Corp. as a vice-president and director.

The officers of the new corporation are as follows: Herman A. Metz, president; Charles L. Gagnebin and Berthold A. Ludwig, vice presidents; Almuth C. Vandiver, secretary and treasurer.

The main office of the company will be at 122 Hudson Street, New York, where the Metz organization has been located. Branch offices will be maintained at 130 Oliver Street, Boston; Turks Head Building, Providence, R. I.; 132 Chestnut Street, Philadelphia; 449 North La Salle Street, Chicago; 301½ West Trade Street Charlotte, N. C.; 20 Natoma Street, San Francisco.

The date of the acquisition of the business of the three companies by the new corporation was July 1.

Background of Companies

Mr. Metz has long been an active figure in the dyestuff industry. His company, H. A. Metz & Co., Inc., has been the representative of the Farbwerke-Hoechst products for many years. In addition his activities in the establishment of two American dye manufacturing plants identified him with the domestic industry.

The Consolidated Color & Chemical Co., was incorporated in 1902 with plant located at Brown Street and Lister Avenue, Newark, N. J. It engaged in the manufacture of an extensive line of cotton sizes, finishes, soluble oils, turkey red oils and leather oils. In dyestuffs it produces a complete line of sulphur and basic dyes for cotton and mordant dyes for wool. Plant facilities were extended largely after the outbreak of the European war. H. A. Metz & Co., Inc., have acted as sole selling agents for the company. Mr. Metz was president of the Consolidated.

The Central Dyestuffs & Chemical Co., was incorporated in 1898. The plant is located on Plum Point Lane, Newark, N. J. The company is engaged in the manufacture of intermediates and azo dyestuffs for cotton and silk. It also manufactures dyes for color makers and a comprehensive line of oil colors for general purposes. Here too the outbreak of the World War resulted in considerable increase in manufacturing facilities of the plant. H. A. Metz & Co., Inc., were also selling agents for this company. Mr. Metz was vice-president and treasurer.

The new corporation, the General Dyestuff Corp., has been incorporated under the laws of the state of New York.

British Cotton Index Up

MANCHESTER, ENG.—At 248 for June 12, the *Cotton Trade Review* (Manchester) weekly index of the average of raw cotton, yarn and cloth prices, shows an advance of 9 points compared with May 15. On Dec. 31, 1924, the figure was 253, and on June 12, 1924, 250. The basis of the index is 100 as the price of each commodity on July 31, 1914. With the exception of cloth, which is 3 points lower on the month at 189, the figure for each section is higher. Egyptian cotton at 382, and American cotton at 201, which are 26 points and 15 points up respectively, are the biggest increases. American yarn and Egyptian yarn record gains of only 2 points and 3 points to 215 and 252 respectively.

Australian Wool Plans

Proposals of Sir John Higgins not Generally Approved

News of interest with reference to the development of plans for the marketing of the Australian wool clip would seem to indicate a lack of unanimity on the part of the trade there as to the best policy to pursue. According to information received at the British Consulate General, Philadelphia, from the Commissioner for Australia, cablegrams from Melbourne outline a plan submitted by Sir John Higgins, Chairman of BAWRA, which originated from the Central Wool Committee. These cablegrams were as follows:

"Before a large and thoroughly representative body, Sir John Higgins, Chairman of BAWRA announced his plan for the stabilization of prices. He proposes a voluntary and mutual association of wool growers, with a capital of fifty million pounds which shall acquire the wool clips by the appraisement method and realizing on them by collective marketing. The capital to be divided into twenty-five million in wool certificates and a similar amount in shares, all one pound each. Certificates to be negotiable and transferable but have not a voting power. Shares not to be negotiable or transferable except as between Association members and bona fide wool producers. Freedom of trade within the Commonwealth is recognized. He suggests Federal Government guarantee until sufficient capital is subscribed and seeks authority association issue export licenses. To provide the capital he proposes to deduct two and one-half per cent on account of certificates, with a similar deduction on shares which is to be made from net value of clips. Contributions to be apportioned in ratio to value of wool supplied by each owner. Settlement for wool appraised to be made by first payment fourteen days after appraisement, second payment at the close of the season, final payment less deductions and expenses when the whole clip is sold."

The second cablegram reads as follows:

"Federal Council of Graziers decided to refer Sir John Higgins' scheme for stabilizing wool prices for the consideration of the component associations. The Council consider dangerous the two main proposals of the scheme, viz.; borrowing funds under the Government guarantee, and controlling export under the system of Government licenses. W. Stevenson Fraser and W. J. Young, members of the Central Wool Committee since the inception, while appreciating the merits of Sir John Higgins and his great administrative ability, consider the scheme will not achieve the results desired."

From the second cablegram it would seem as if there was considerable opposition to the proposition as submitted by Sir John Higgins. Messrs. Stevenson, Fraser and Young are members of the BAWRA, and it is therefore evident the Central Wool Committee itself is divided in its opinion as to the best method to pursue in marketing the wool clip of Australia. Further developments will naturally be awaited with keen interest by the wool trade and the manufacturers of this country.

Belding Stock Offered

Syndicate Presents 320,000 Shares at $39.50 for Public Subscription

As announced last week the offering of stock of Belding Bros. & Co. was made on Tuesday, when 320,000 shares of common stock were presented to the public by a syndicate headed by Edward B. Smith & Co. at $39.50 per share. Other members of the syndicate are Cassatt & Co.; Spencer Trask & Co.; Eastman, Dillon & Co.; Hornblower & Weeks; Tucker, Anthony & Co.; Hayden, Stone & Co., and Mitchell Hutchins & Co., Inc.

Control of the company was purchased by Edward B. Smith & Co. and the Bankers Trust Co. from the Belding family which has held the business for 62 years. As a result of this transfer of control, new stock has been created but no new financing has been contracted for the company.

The company had outstanding 69,172 shares of common stock which has been selling at an average price of $240 for some time past. It also had outstanding 10,188 shares of 7% preferred stock for which $115 per share had been bid consistently. The indicated market value of these old shares represent a total of more than $16,800,000. The company is now being recapitalized with 415,032 shares of common stock, will have no funded debt, no bank loans, and, except for about $125,000 par value of preferred stock which it proposes to retire, will have no class of stock other than the new common. At the price of $39.50 per share the offering represents a market price of a little over $16,300,000, for the total recapitalization. A reserve fund has been set aside sufficient to retire all preferred stock.

In a statement made by the management, it is said that it is the intention to inaugurate dividends on the new stock at the rate of $3.00 a share annually. It is also stated that for the six-year period ending Dec. 31, 1924, earnings available for dividends on the basis of the new capitalization, after depreciation and federal taxes, averaged approximately $4.47 a share per annum on the new stock. After giving effect to the proposed recapitalization of the company, total current assets as of Dec. 31, 1924, were said to have aggregated $7,671,695 as against current liabilities of $141,878.

The bankers state that the principal executives will retain an interest in the stock of the company and will continue in active management of its affairs. Negotiations were handled for the company by M. M. Belding and General E. C. Young and for the bankers by John W. Cutler and George C. Cutler, Jr.

Application will be made to list the stock on the New Stock Exchange and trading started on the New York Curb Market Wednesday morning.

The following statement has been given to the press by M. M. Belding, President of Belding Bros. & Co., in an interview at his office, at 902 Broadway, New York, and is the first authentic statement on behalf of Belding Bros. & Co. to appear with regard to recent negotiations for the

(*Continued on page 153*)

Farley Photo

General view of Chemical Exposition held in Providence, R. I., last week under auspices of Association of Chemical Equipment Manufacturers and reported in June 27 issue of TEXTILE WORLD.

CONDENSED TEXTILE ITEMS

COTTON CROP REPORTS

The Government cotton reports made public at 1:30 p. m. on Thursday showed a condition of 75.9%, an estimated acreage of 46,448,000, and an indicated yield of 14,339,000 bales.

Indian Company Buys New Bedford Spinning Company

Robert Amory of Amory, Browne & Co., dry goods commission merchants, Boston, Mass., reports the purchase by the Indian Company, a holding company of which he is president, of the New Bedford (Mass.) Spinning Company from Taylor, Armitage & Eagles of New York City. The New Bedford Spinning Company was originally a tire fabric plant, but was re-equipped some time ago for the production of finer count fancy fabrics and is equipped with approximately 17,000 spindles and 195 wide box looms. The new owners will operate it on a similar class of goods and will increase its capacity to about 250 looms. John Catterall, formerly superintendent of weaving at the Dartmouth Mills, is agent of the plant and will continue in this capacity. James H. Whitehead, treasurer of the Boston Manufacturing Co., is also treasurer of the Indian Company, and the directors of the latter in addition to Messrs. Amory and Whitehead are Russell B. Lowe, Lincoln Baylies and Benjamin F. Meffert.

* * *

Textile Operatives Condemn Automatic Loom "Evil"

BIDDEFORD, ME.—At the closing sessions of the American Federation of Textile Opeartives, these officers were elected:

President, James Tansey, Fall River; first vice-president, Abraham Binns, New Bedford; second vice-president, William McNamara, Fall River; third vice-president, John B. Benoit, Taftville, Conn.; secretary, William E. G. Batty, New Bedford; treasurer, William Harwood, Fall River; auditors, James Howarth, Fall River; Thomas Bolton, New Bedford; John Singleton, New Bedford.

Resolutions were adopted condemning propaganda of textile machinery manufacturers particularly loom makers which had caused the textile industry to become loaded with automatic machinery "sold through misrepresentation as to its capabilities, the consequence of which was to impose on mill operatives far more machines than they can attend to." It was recommended that incoming officers and the executive board do all in their power to counteract this growing "evil." It was also urged that the new executives bring about an early conference with representatives of the Federated Textile Unions of America with the object of amalgamating all groups into one national textile union of textile workers.

The convention recorded itself as favoring Government ownership of railroads and mines under Democratic control, and also favored the United States entering upon full diplomatic and commercial relations with Soviet Russia.

A vigorous campaign will be conducted looking toward the organization of all textile workers in sections where unions now exist.

The next convention will be at Lawrence, Mass., the last full week of June 1926.

* * *

Goff Real Estate Not Sold

Owing to the fact that no one present was willing to bid on the real estate, water rights, etc. of the D. Goff & Sons plant at Pawtucket, R. I., the auction sale which commenced Monday of last week was declared off on Thursday. The auctioneers announced that the buildings would be sold privately or rented. The sale of machinery and equipment earlier in the week aggregated about $210,000.

* * *

Marine Wool Club Formed

POLAND SPRING, ME.—The Tam o' Shanter Club was host here last Thursday to more than 100 wool men of New England. So far the club has been more or less informal with get-to-gethers which have included sports, a good dinner and general holiday fun. At this meeting, however, a formal organization was completed with R. Crawford McIlroy, of the Columbia Mills here, slated for the presidency.

In the morning there was a whippet race and the greatest speed ever shown in Maine by a living creature was recorded.

* * *

Sericulture Being Revived in India

In India the original home of the silk worm the culture of silk has been so neglected in recent years that the country no longer figures as a factor in world production. From time to time, however, word is received that attempts are being made in different sections to revive the industry.

According to recent information the breeding of worms has started in Bengal, the large Indian State situated on the Ganges Delta. The Sericultural Nursery at Alipore has demonstrated that the country around Calcutta is suitable for the introduction of the industry, and has organized the extension of that industry around Behala. A number of landowners, both Hindu and Mohammedan, are rearing silkworms along scientific lines from eggs supplied by the nursery. The second crop which was gathered at the end of April of this year yielded a fair return to the producers.

* * *

Russia Again Exports Flax

Detailed figures of exports and imports of the Soviet Union, for the first half of the Russian fiscal half-year, Oct. 1 to April 1, received by the Russian Information Bureau in Washington, show that flax valued at $24,500,000 led among the exports, with furs valued at $12,500,000 in second place and oil products and timber products valued at $12,000,000 each next on the list. The rapid rise of the Russian textile industry is shown by imports of cotton valued at $17,500,000, wool valued at $11,250,000 and dyes value at $4,300,000. The imports for the period included locomotives valued at $4,140,000, tractors valued at $2,190,000, and airplane parts, principally motors, valued at $2,360,000.

* * *

Unsold Stocks Kept Low by Piedmont Mills

CHARLOTTE, N. C.—Much gratification is expressed by local textile leaders at the continued evidences of the purpose of the textile men in the Piedmont section of the Carolinas to refrain from piling up unsold stocks and turning out goods only upon orders or reasonable expectations of immediate orders. It is estimated that more than 8,000,000 spindles in the South are curtailing in varying degrees, depending upon the orders they have in hand. With rare exceptions the mills have no unsold stocks to speak of and this fact adds strength to their position since an accumulation of goods, a part of it in the hands of mills that might be cramped financially, would tend to weaken the market.

There is an increasing sentiment against operating without any profit at all and this is responsible for the new and rapidly crystalizing policy of operating only on orders. Textile leaders argue that in the long run the mills will operate just as many hours under that policy as they would under the old destructive policy of piling up unsold goods until some of them were forced to sell at whatever price the well informed market might offer.

TEXTILE MARKETS IN BRIEF

Cotton Markets: **Print cloth prices firm at advances, and situation strongest for some time. Broadcloths hold sharp advances on recent volume buying; some trading in light-weight sheetings, but heavy-weight goods generally unimproved. New lines of novelties for spring, 1926, shown with rayon the feature in dress goods. Amoskeag announces radical departure in production of novelties. Gingham committee to draw plans for organization to disseminate statistics on production, stocks, etc.**

Wool Markets: **Interest in fabric circles centers on forthcoming London wool sales and Australian auctions. The tone of these offerings will fix the tone of fabric selling for the immediate future. It is expected that prices will be relatively firm. Tropical openings for 1926 continue to receive good support. Women's wear houses are restricted by the delay of the retailer. Forthcoming style shows may settle his doubts and start a stream of forward business. Worsted yarn interest broadening; spinners' prices firmer; with spot lots available at unchanged figures.**

Knit Goods Markets: **Infants' socks opened for spring, 1926, some prices showing small reductions; new lines will probably average lower; styling of new goods very attractive, and good early business reported; general market featureless, with prices generally firm. Light-weight underwear openings scheduled for next week; early openings of nainsooks for next spring at low prices; several balbriggan mills entering nainsook business. Openings of bathing suits awaited next week; cricket sweaters seem due to be supplanted by lumberjackets.**

Silk Markets: **Sharp advance in raw silk complicates broad-silk situation. Japan silk up 25c a pound in sympathy with Cantons and Shanghais which cannot be exported at present. Stocks of latter small in New York, with buyers bidding eagerly. Manufacturers complain of buyer resistance to any advance in price of fall fabrics. Most mills, however, operating two and sometimes three shifts with demand for throwing even greater than during spring.**

Correction

It was stated erroneously in last week's issue that Ernest Fallows had been elected vice-president and general manager of the Western Reserve Cotton Mills with plants at Quitman and Millen, Ga. John W. Alexander has been appointed vice-president and general manager of these mills.

THE PERSONAL PAGE

J. B. Sidebotham, president of John Sidebotham, Inc., Frankford, Philadelphia, and Mrs. Sidebotham, sailed on June 25, on the S. S. Belgenland, for a pleasure trip to England and France. They expect to return to this country in September.

Mrs. Bertha Sternberger, president of the Revolution Cotton Mills, Greensboro, N. C., has created an educational fund of $100,000 and $5,000 additional for the first year as a memorial to her late husband, Emanuel Sternberger, founder of the mills of which she is now the head. Proceeds from the fund will be used for vocational training of worthy young persons.

A campaign committee has been appointed by Mayor Kendrick of Philadelphia, to aid in raising approximately $3,000,000, for financing the Sesqui-Centennial Exposition which is to be held in that city next year. Among those appointed to this committee are the following well known textile factors: John Fisler, president of Yewdall & Jones; J. Howell Cummings, John B. Stetson Co., J. D. C. Henerdon, Henderson & Co., Wm. H. Folwell, Folwell Bros., & Co., Inc., Benjamin H. Wasserman, Philadelphia Pile Fabric Mills and Philadelphia Tapestry Mills; and Chas. J. Webb, Chas. J. Webb & Sons Co., Inc.

Herbert Midgley, president and general manager of the Howard Bros. Mfg. Co., Worcester, Mass., was presented with a testimonial silver loving cup at the annual outing of the employes held at Lake Quinsigamond, that city, on June 26.

Joseph T. Herrick, president of the Bay State Thread Works, Springfield, Mass., sailed on June 30 to spend the summer abroad.

John Sanford, president of Stephen Sanford & Sons, Inc., Amsterdam, N. Y., will return Aug. 1 from a two months' vacation in Europe.

Edward J. Kennedy, Jr., for a number of years connected with the textile section, United States Rubber Co., has severed his connections with this company. Mr. Kennedy recently organized the Kennedy Mfg. Co., Inc., New Brunswick, N. J.

J. F. Crane, of L. M. Crane Co., oil merchants, Boston, is on a trip through England and Scotland regarding wool oil and other oil ingredients pertaining to the textile industry. He expects to be gone for about six weeks.

Francis G. Morton, of the Amsterdam (N. Y.) Hosiery Mfg. Co., and Sarah G. Peoples were married on June 25 in that city.

Thomas B. Gannett, Boston, has been elected a director of the Draper Corporation, Hopedale, Mass., to fill the unexpired term of the late Eben Draper Bancroft.

George E. Tucker, for 30 years agent for the Otis Co., Ware, Mass., has resigned, effective on July 1, when he becomes agent emeritus. He will continue to assist his successor until Jan. 1, 1926, when he completes 50 years of continuous service with the company and will retire from active duties. Mr. Tucker is now in his 82d year and enjoys excellent health. He has been succeeded by Sidney C. McHenry, for the last 15 years superintendent of the cloth department of the company. Mr. McHenry completes 33 years' service with the company this year.

H. S. Horrocks, secretary and treasurer, H. Brinton Co., Philadelphia, will sail July 8, on the S. S. George Washington, for a six weeks' pleasure trip to England and the Continent where he will visit points of interest and friends in these countries.

Fred A. Rakestraw, of Hyde-Rakestraw Co., Philadelphia, and his family have started on a pleasure trip through a number of the western states. They plan to return to Philadelphia in about four weeks.

Herman O. Werner has resigned his position as manager of the Rochdale (Mass.) Mills of the American Woolen Co.

August F. Keeler, plant manager of the Villa Nova Worsted Co., Woonsocket, R. I., has resigned his position with that company.

Allan I. Davis, production manager for the James Hunter Machine Co., Inc., North Adams, Mass., and Miss Catherine Woods, Richmond, Va., were married in the latter city on June 20.

K. S. Porter has been appointed superintendent of the Planters & Manufacturers Cotton Mills, now under construction at San Marcos, Tex.

O. B. Paris has succeeded W. C. Hooper as superintendent of the Campbell Knitting Mills, Williamsburg, Ky.

C. B. Johnson is now superintendent of the Sunshine Hosiery Mills, Murfreesboro, Tenn.

Samuel Bridges, superintendent of the Star Mill of the Russell Mfg. Co., Middletown, Conn., resigned recently to become director of the textile department of the State Trade School, recently opened.

H. C. Callahan has succeeded B. F. Sanford as superintendent of the Vass (N. C.) Cotton Mills Co.

F. E. Laycock has been appointed superintendent of the new plant of the Beacon Mfg. Co., at Swannanoa, N. C.

James B. Platt, superintendent of the Acworth (Ga.) Mills, has resigned that position.

Claude Freese has succeeded Albin Arnold as superintendent of the Nebel Knitting Co., Charlotte, N. C.

William J. Cummings, assistant superintendent and designer for the Acme Worsted Mills, Jamestown, N. Y., has resigned his position with that company and returned to his home in Webster, Mass.

E. C. Jouret, designer and assistant superintendent for the Western Worsted Mills, Milwaukee, Wis., has resigned to accept a similar position with the Acme Worsted Mills, Jamestown, N. Y.

William Davenport, for the past 20 years plant engineer in charge of the mechanical and electrical departments of the Dartmouth Mfg. Co., New Bedford, Mass., has tendered his resignation to take effect July 3.

Lyman E. Small has accepted the position as overseer of carding for the Farnsworth Mills, Inc., Central Village, Conn. Mr. Small comes from Holliston, Mass.

Andrew J. Currier, Elected Second Vice-President of Southern New England Textile Club at recent annual meeting. Mr. Currier is a retired cotton manufacturer whose last position was as agent of the Nonquitt Spinning Co., New Bedford, Mass.

T. B. Havener has been promoted from second hand to overseer of weaving in Mill No. 2 of the Rhodhiss (N. C.) Mills Co.

Michael J. Gahagan, formerly of North Oxford, Mass., has taken a position as overseer of carding in the Heritage Woolen Mills, Holliston, Mass.

D. F. Short, formerly connected with the Manville-Jenckes Co., Gastonia, N. C., has taken a position as overseer of weaving with the Rhodhiss (N. C.) Mills Co.

E. L. Lassiter has recently become overseer of carding No. 1 and 2 of the Bladenboro (N. C.) Cotton Mills, Inc. He was formerly overseer of carding and spinning for the Red Springs (N. C.) Cotton Mill Co.

R. A. Haynie, overseer of spinning for the Superior Yarn Mills, Inc., Monbo, N. C., has been promoted to the position of night superintendent.

Joseph Delangie has accepted the position as overseer of carding for the Ottaquechee Woolen Co., North Hartland, Vt. Mr. Delangie comes from North Adams, Mass.

Henry E. Wright, overseer of carding in Mill No. 2 of the Mystic Woolen Co., Hope Valley, R. I., for the past 12 years, resigned recently.

A. F. Orren has recently become day overseer of spinning in the plant of the Superior Yarn Mills, Inc., Monbo, N. C. He was formerly on the night shift.

G. W. Corn, formerly night overseer of weaving in the Florence Mills, Forest City, N. C., has recently become overseer for the Spencer Mills Co., Spindale, N. C.

Allen S. Vincent has taken the position as overseer of carding for the Jewell Brook Woolen Co., Ludlow, Vt., Mr. Vincent comes from Wales, Mass.

W. A. McNeace who has been overseer of weaving for the Rhodhiss (N. C.) Mills Co., for about a year and a half, has returned to the Republic Cotton Mills, Great Falls, S. C. Mr. McNeace now holds the position of assistant superintendent.

L. L. Maxey, overseer of beaming and quilling in Mill No. 6 of the Marlboro Cotton Mills, McColl, S. C., has resigned and accepted a position with the Ford Motor Co., Detroit, Mich.

Nelson Morris, overseer of spinning for the Grosvenor-Dale Co., North Grosvenordale, Conn., and Miss Charlotte Dietrich, Blackstone, Mass., were married at the home of the bride's parents on June 27.

C. W. Nelson is now overseer of the seaming department at the plant of the Chalmers Knitting Co., Amsterdam, N. Y.

Zeb Grey, formerly employed in Great Falls, S. C., has accepted the position of overseer of spinning in the Springstein Mills, of Chester, S. C.

J. G. Watson, formerly a second hand is now night overseer of carding and spinning for the North State Cotton Mill Co., Taylorsville, N. C.

Arthur Taylor has resigned as overseer of carding in the Flint Mills, Fall River, Mass.

Alex. Robbins has taken a position as night overseer of spinning with the Superior Yarn Mills, Inc., Monbo, N. C. He was formerly second hand in spinning for the Hall-Kale Mfg. Co., Troutmans, N. C.

H. P. Burke, overseer of weaving in the Covington (Ga.) Mills, has resigned that position.

Joseph P. Goudreault second-hand in slashing and drawing-in at the Lorraine Mfg. Co., Pawtucket, R. I. has resigned to accept the position of overseer of weaving, slashing and drawing-in with the Mount Royal Branch of the Dominion Textile Co., Ltd., Montreal, Quebec. Stanley Jessiman, of Westerly, R. I., has taken the position made vacant by Mr. Goudreault at Pawtucket.

John Mello has resigned as assistant overseer of carding in the Flint Mills, Fall River, Mass.

Hugh Quinn has taken the position as second hand in the carding department

The Personal Page—Continued

for the Russell Mfg. Co., Pittsfield, Mass.

The National Loomfixers' Association in convention at Biddeford, Me., elected the following officers: President, James Howarth, Fall River, Mass.; vice president, William Smithers, New Bedford, Mass.; secretary and treasurer, J. B. Benoit, Taftville, Conn.; executive board, Thomas Goodwin, Fall River; James Hewitt, Adams, Mass.; Joseph Whalley, New Bedford, and Edward Podjoski, Chicopee, Mass.

C. A. May has been promoted from second hand, day run, to night overseer of weaving in the Aragon-Baldwin Cotton Mills, Whitmire, S. C.

J. L. Wofford has taken a position as overseer of weaving with the Union-Buffalo Mills Co., Buffalo, S. C. He was formerly connected with the Lydia Cotton Mills, Clinton, S. C.

George Lefevre, assistant overseer of the spinning department of the Blackstone (Mass.) branch of the Lonsdale Co., has been promoted to the position of overseer, to succeed Malcolm Landry, resigned.

John L. Reinartz, electrician for Cheney Bros., South Manchester, Conn., who has gone to the Arctic with MacMillan's expedition, takes with him a number of silk flags, gifts of Cheney Bros., to place at points marking the progress to the north, and a big one to "Nail to the pole,'" as Frank D. Cheney said in presenting it to him at a recent farewell dinner. Mr. Reinartz is a radio expert and the inventor of the tuner bearing his name.

W. L. Thompson has been promoted from second hand to overseer of carding in the Hannah Pickett Mills, Rockingham, N. C.

R. C. Simpson, formerly night overseer of weaving in the Lancaster (S. C.) Cotton Mills, is now assistant overseer of weaving in Mill No. 3 of the Republic Cotton Mills, Great Falls, S. C.

Norman B. Morrison has recently become assistant finisher in the Marland Mills, Andover, Mass.

Stephen Logee completed 56 consecutive years with the Draper Corp., Hopedale, Mass., on June 2. Mr. and Mrs. Logee also celebrated their 52d wedding anniversary during that month.

S. H. Childers, second hand in weaving for the Industrial Cotton Mills Co., Rock Hill, S. C., has been made overseer of the cloth room in that plant.

D. J. Dennis is now second hand in No. 3 spinning in the Marlboro Cotton Mills, McColl, S. C.

J. D. Miller has taken a position as second hand in spinning in the Amazon Cotton Mills, Thomasville, N. C. He was formerly employed in the Mayflower Mills of the Cramerton (N. C.) Mills, Inc.

Irving Thornton, formerly second hand in spinning for the Ashland Cotton Co., Jewett City, Conn., now holds a similar position with the Ninigret Co., of the same city.

W. L. Kate, loom fixer for the Industrial Cotton Mills Co., Rock Hill, S. C., has been promoted to second hand in the weaving department.

Cyril John, for 21 years second hand in the card room of the Schuster Woolen Co., East Douglas, Mass., has taken a similar position with the Hayward Woolen Co., in the same town.

J. H. Sanders, formerly with the Laboratory Cotton Mills, Lincolnton, N. C., is now second hand in carding for the Industrial Cotton Mills Co., Rock Hill, S. C.

W. M. Pruitt has accepted the position of master mechanic with the Locke Cotton Mills Co., Concord, N. C.

Henry G. Young, master mechanic in the plant of the Farwell Bleachery, Lawrence, Mass., has resigned that position.

L. A. Daniel has recently become superintendent of the Audrey Spinning Mills, Inc., Weldon, N. C. Mr. Daniel, who is a graduate of the textile department of the State College, at Raleigh, was formerly connected with mills at Roanoke Rapids, N. C.

A. F. Garison is now superintendent of the Chas. H. Bacon Co., Lenoir City, Tenn.

J. H. Carpenter has returned to his former position as superintendent in the Perkins Hosiery Mills, Columbus, Ga.

George Vincent has resigned as superintendent of the Ensign-Bickford Co., Simsbury, Conn.

Walter Hogg has resigned as superintendent of the woolen yarn mills of Stephan Sanford & Sons, Inc., Amsterdam, N. Y., after 28 years of service.

Benjamin P. Green has been promoted from overseer of spinning to assistant superintendent of the mill of the Standard-Coosa-Thatcher Co., Chattanooga, Tenn.

Edward T. Willson, Jr., service manager of the Lancaster Mills, Clinton, Mass., outlined plans for the establishment of old age pensions among the employes at a meeting of the Employes' Council held on June 3. The matter will be considered at the next meeting of the council.

Ezra Hemingway has returned to his former position of superintendent of the night shift at the plant of the Thermo Mills, Inc., West Sand Lake, N. Y.

J. D. Lavender, formerly of Chesnee, S. C., is now overseer of spinning in the Irene Mills, Gaffney, S. C.

F. H. Kane has resigned as overseer of carding for the Faribault (Minn.) Woolen Mill Co. and returned to his home in Lewiston, Pa.

James M. Richardson, an overseer in the dyeing department of the Amoskeag Mfg. Co. for 32 years, has resigned his position. Mr. Richardson was connected with the Amoskeag company for 47 years.

J. B. Holt, overseer of No. 1 and 2 carding in the plant of the Clover (S. C.) Cotton Mills Co., resigned recently to accept a position as overseer of carding and spinning at Pendleton, S. C.

R. C. Godfrey, for a number of years a second hand in the Chesnee (S. C.) Mills, has been promoted to the position of overseer of spinning in that plant.

W. J. Hamilton, overseer of night carding and spinning in the Wymojo Yarn Mills, Rock Hill, S. C., has resigned that position.

J. T. Quarles, a second hand in the Mobile (Ala.) Cotton Mills has been promoted to the position of night overseer of carding in that plant.

G. V. Tallent, formerly connected with the Lullwater Mfg. Co., Greenville, S. C., is now overseer of carding and spinning for the Red Springs (N. C.) Cotton Mill Co., Inc.

D. J. Bolton has taken a position as overseer of spinning with the St. Pauls (N. C.) Cotton Mill Co., Inc.

J. H. Riggs has been promoted to the position of overseer of carding in the Delgado Mills, Wilmington, N. C.

Michael McMahon, for many years connected with the New Hartford Knitting Co., Capron, N. Y., and the Oneita Knitting Mills, Inc., Utica, N. Y., is now overseer of knitting in the plant of the Paragon Underwear Co., Utica.

J. H. Arnold, overseer of carding in the Ensign Cotton Mill, Forsyth, Ga., has resigned.

R. A. Fairchild has succeeded Nathan Dellinger as overseer of spinning in the plant of the Gaston Mfg. Co., Cherryville, N. C.

Lawrence J. Kenney has been promoted as overseer of the finishing department of the Fabyan Woolen Co., Medway, Mass.

W. R. Goodwin, formerly night overseer of weaving in the Opp (Ala.) Cotton Mills, now holds a similar position in the Sylvan Cotton Mills, Shelbyville, Tenn.

G. C. Starr, formerly of Mount Holly, N. C., is now overseer of carding at the Priscilla Spinning Co., Ranlo, N. C.

M. C. Cook has been promoted to the position of overseer of spinning in the Delgado Mills, Wilmington, N. C.

M. Pauth, formerly connected with the Augusta Knitting Corp., Utica, N. Y., is now overseer of silk knitting in the Gem Dept. of the Union Mills, Inc., Herkimer, N. Y.

E. L. Lassiter, overseer of carding and spinning for the Red Springs (N. C.) Cotton Mill Co., Inc., has resigned that position. William H. Sadler, foreman of the spindle blade department of the Draper Corp., Hopedale, Mass., recently entered upon his 44th year of service at the plant.

M. B. Boseman, formerly of McColl, S. C., is now overseer of carding and spinning for the Raeford (N. C.) Cotton Mills Co.

L. A. King has become overseer of spinning and twisting for the Audrey Spinning Mills, Inc., Weldon, N. C.

Clifford Brown, formerly overseer of warping in the mill of the Standard-Coosa-Thatcher Co., Chattanooga, Tenn., is now overseer of spinning for the same company.

J. B. Coley has recently become overseer of weaving in the Delgado Mills, Wilmington, N. C.

E. E. Davis is now overseer of weaving in the Opp (Ala.) Cotton Mills. He formerly held a similar position with the Cotton Mills Products Co., Natchez, Miss.

John Q. Ford, a second hand in the mill of the American Textile Co., Atco, Ga., has been promoted to the position of overseer of spinning in that plant.

T. M. Brown has recently become overseer of weaving in the Florence Mills, Forest City, N. C. He was formerly connected with the Beaumont Mfg. Co., Spartanburg, S. C.

Wool Goods Packing

(*Continued from page* 62)

bales or boxes or in rattan shipping hampers locked and sealed with metal seals."

A shipper has requested the Consolidated Classification Committee to make a change in the present packing requirements for Dry Goods, N. O. I. B. N., and if the shipper's request is acceded to and the change is made in strict accord with the request, it would no longer be permissible to use corrugated or solid fibre boxes that do not comply with the restrictions contained in Rule 41. The shipper's request is that the foregoing item be changed to read as follows:

"DRY GOODS, N. O. I. B. N., in bales or rolls, see Note, or in boxes or rattan shipping hampers locked and sealed with metal seals.

"NOTE.—Bales or rolls must be securely wrapped with cloth or with not less than two thicknesses of strong Sulphite Rope or Rag Paper, each thickness having a resistance of not less than 70 pounds to the square inch, Cady or Mullen test, or with one or more thicknesses of strong Sulphite Rope or Rag Paper having resistance of not less than 100 pounds to the square inch, Cady or Mullen test, or with two thicknesses of paper or paper and cloth fastened together with a waterproof composition having a resistance of not less than 60 pounds per square inch, Cady or Mullen test, and when wrapped with paper, bales or rolls must be securely tied and knotted at each crossing with polished unoiled hemp twine or rope having a breaking strength not less than the weight of the package, and in no case less than 100 lbs."

Hearings on this request will be held by the Consolidated Classification Committee, as follows: Traymore Hotel, Atlantic City, N. J., July 14-15-16, 1925; Room 404, Chicago Union Station, Chicago, Ill., July 21-22-23, 1925.

It is quite probable that those who are interested in using fibre boxes that do not comply with the requirements of Rule 41, cording or metal-strapping the containers and billing the shipments as "in bales" will desire to enter a protest.

Protests against any changes in the classification item which would forbid the use of fibre containers, "billed as bales," as is at present permitted should be forwarded to F. W. Smith, Chairman, Official Classification Committee, 143 Liberty Street, New York City, and interested shippers should, if possible, attend the hearing.

POWER AND ENGINEERING SECTION

The Pumping Equipment of Textile Mills

Purposes for Which Pumps are Used—Characteristics of Different Types and Points to be Considered in Their Selection—Methods of Installation for Securing the Best Results—Care and Adjustment—Importance of This Element in Mill Equipment is Not Always Appreciated

By Charles L. Hubbard

THE pump equipment of a large textile mill, if placed in a single room, would probably surprise even those in immediate charge by its magnitude and variety, and would impress upon them the possibility of large operating wastes through improper selection, faulty installation, and neglect in care and adjustment.

Pumps of one kind or another are used for boiler feeding; circulating water through condensers, and removing the air and condensate from the same; for producing a vacuum on the returns or air lines from steam heating systems, and for producing a circulation through those employing hot water; for handling liquids of various kinds in bleaching, dyeing, and finishing departments; for pumping water for the general plant supply, and for furnishing water pressure for fire protection.

In addition to the above, pumps of various kinds are used for compressing air, and for producing a vacuum for cleaning purposes; also in connection with air washers, humidifying devices, and systems of automatic temperature control. The centrifugal fans employed for ventilating purposes are simply a form of air pump. It is proposed in the present article to consider only those types used for the handling of liquids, and these in sizes and operating under the conditions commonly found in textile mills.

Pumps for the uses enumerated above, may be classed as steam pumps, power pumps, centrifugal pumps, rotary pumps, and deep well pumps. In operating a pump efficiently, much depends upon its being adapted to the special conditions under which it is used. Therefore, to make a suitable selection, one must be familiar with the more important characteristics of the different types of pumps, especially as they are affected by the various requirements of textile mill work.

Steam Pumps

The term, "steam pumps," is usually applied to the direct-acting type, which is built both with one steam cylinder and one water cylinder (simplex), and with two of each (duplex). The direct-acting steam pump has comparatively few working parts, requires but little attention, is easily regulated as to speed and capacity, and is, in general, very reliable. When the pump is to be used simply for transferring water or other liquid from one chamber to another, where a continuous flow is not necessary and a certain amount of pulsation is allowable, the simplex type gives satisfactory results and requires less steam for the same amount of work than the duplex pump. The pulsation or water hammer which is usually present with the single-cylinder pump is due to the complete stoppage of flow at each reversal of the stroke, and can be considerably reduced by the use of air and vacuum chambers.

The pumping equipment of a large mill contains many units, of a variety of forms and operating under all sorts of conditions. While the average efficiency of this type of machine is not high, it can usually be raised a substantial amount by exercising suitable care in selecting each unit for its particular work, installing it properly, and then keeping it in good adjustment and repair. Probably no part of the mechanical equipment of a textile mill receives less care than its pumps, and the energy wasted through leakage and preventable friction would probably surprise those in charge. Losses of this kind are, for the most part, invisible; and while comparatively small for a single unit, the total for a year becomes a substantial amount. An attempt has been made in the present article to describe briefly the more important characteristics of the different types of pumps used in mill work and to suggest how these may be applied in the selection of a pump for the various classes of service. A good machine improperly installed cannot give satisfactory results, and therefore the subject of pipe connections has been touched upon to some extent. No machine can operate at its highest efficiency unless it is properly cared for; and regular inspection, cleaning, adjustment, and early renewal of worn parts are all essential in order to obtain the best work from the factory pumping outfit.—Author.

The duplex type, which consists of two complete units mounted side by side, produces a practically continuous flow. The simplex pump is well adapted to vacuum work, in connection with condensers and vacuum heating systems, while the duplex is better for high-pressure work, boiler feeding, and all cases where a very high or a very low velocity is required, on account of its continuous action. Direct acting pumps are also classified as "piston" and "plunger" pumps, and the latter again divided into the "inside" and "outside" packed types.

The Piston Type

The piston type should be limited to pressures around 150 lbs., although it is frequently operated considerably above this. At higher pressures there is difficulty in keeping the packing tight. For gritty water or other liquids which tend to wear the rubbing surfaces, and for pressures above 150 to 200 lbs., the outside-packed plunger pump should be employed, partly because of the less expense involved in the renewal of parts, and partly because of the ease with which leaks are detected and the packing of the plunger adjusted. The inside-packed pump has only the first of these advantages over the piston pump.

The chief objection to the direct-acting pump is its excessive steam consumption, which commonly runs from 100 to 200 lbs per indicated horsepower per hour for the simple type, and considerably more in those which have become worn or are in poor adjustment. While the steam consumption per unit of work decreases as the speed increases, it is best to limit the latter to about 50 strokes per minute for the smaller sizes, and 40 for the larger. As the wear on the pump is due principally to the shock at the reversal of stroke, it is better to limit the number of strokes than the piston speed.

Direct-acting steam pumps are used for practically all of the purposes mentioned in connection with mill work, although other types are extensively employed also.

Power Pumps

This term is commonly applied to all crank-action pumps which are driven from an outside source, and also includes the fly-wheel pump driven by a piston and connecting rod attached to the same crank shaft. The form most commonly employed in mill work is that known as the triplex power pump. This may be belted to the line shafting or driven by an independent steam engine, turbine or electric motor, and is used for most of the purposes mentioned for the direct-acting pump. When operated by an engine or turbine it is independent of the prime mover, which is important for condenser and boiler feed pumps. If electric drive is employed, there should be an independent source of power for use in starting up, or in case of accident to the prime mover. For general pumping service in connection with manufacturing processes, machines belted to line-shafts give good service. When used in dyehouses and other locations where there is a good deal of moisture, electric drive should not be employed unless the motors are especially protected. The machine efficiency of a pump of this type is around 75 to 80%.

As compared with the direct-acting pump, the power pump has a greater over-all efficiency, under most conditions, and may be run at higher speed; but on the other hand, the first cost is greater, maintenance more expensive, while greater care is required in operating attendance.

Centrifugal Pumps

The advantages of the centrifugal pump (Fig. 1), as compared with the reciprocating type, are its small space requirements, low first cost and maintenance, minimum attendance, lightness or absence of foundations, freedom from vibration and pulsation, and a continuous discharge. It has only one moving part, the impeller or runner, and is therefore subject to but slight wear under ordinary conditions.

The volute pump has a spiral casing, without guide vanes, and is preferable for low heads up to 70 or 80 ft. For higher pressures, the turbine pump with enclosed type of impeller, and with guide or diffusion vanes in the casing, should be employed. A single runner is commonly used for heads up to 125 ft., (50 lbs. per sq. in.) and two or more runners (multi-stage) for higher pressures, allowing about 125 ft. per stage. The volute pump is largely used for circulating the cooling water through

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It takes time to gather all the facts—to make comparisons.

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5. Location in the center of Southern markets, and within easy access of others.
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8. Cheap power with the supply well in advance of requirements.

The Tennessee Electric Power Co., Chattanooga, Tenn.

Build Your Mill in TENNESSEE

condensers, and the multi-stage turbine pump is coming into quite general use for boiler feeding in plants of over 500 H.P., and almost exclusively in plants of over 1500 or 2000 H.P.

Wide Application

The centrifugal pump, in one form or another, may be adapted to practically all of the general uses found for a pump in mill work, and forms part of the regular equipment in plants of this kind. Centrifugal pumps require a high speed, and while they may be belted in certain cases, the most compact and satisfactory drive is by means of a direct-connected motor or turbine. In the case of large capacity pumps operating at low heads, the most efficient speed is usually lower than the minimum economical speed of the turbine, under which conditions reduction gears are used. Capacity regulation may be secured by throttling the discharge at constant speed or by varying the speed of motor or turbine.

In the case of boiler feeding and similar conditions, where a certain minimum head must be maintained, variable speed motors or turbines are desirable, and special governors are employed whereby the speed of the driving device is automatically adjusted so that the head produced by the pump remains constant over a considerable range of capacity. It is always important that the design of the runner be such as to adapt the pump to the particular conditions under which it is to operate, and these should always be furnished the manufacturers when making a selection. Furthermore, as the efficiency of a centrifugal pump varies primarily with the head against which it operates, it should be operated near the speed, and under the head for which it is rated, to obtain the best results. While the best modern pumps of this type may have an efficiency ranging from 70 to 80% under favorable conditions, the average for small and medium size pumps is considerably less than this, and 60 to 65% is probably near the results actually realized.

Rotary Pump

This is a positive-action displacement pump, and while the movement of the pumping elements is one of rotation, the principle is entirely different from the centrifugal pump. The general construction of this type of machine is shown in Fig. 2, and requires no further description. The advantages of this pump are its low first cost, small dimensions, and ease with which it may be cleaned. The last characteristic, together with its smoothness of action and ability to withstand hard usage, adapts it especially to the handling of dyes and the various liquids employed in bleaching, washing and finishing.

Deep-Well Pumps

Deep-well pumps are used where the water supply for the mill is obtained from deep or driven wells.

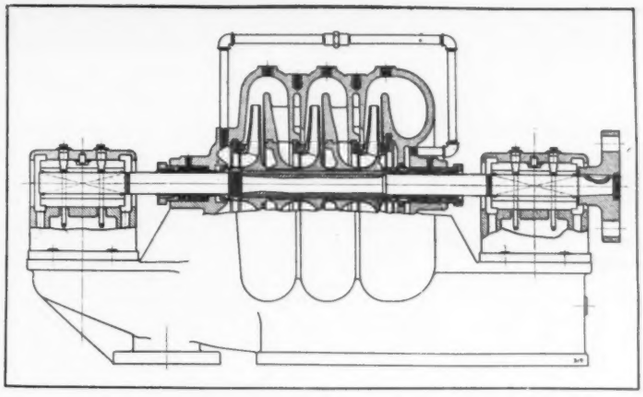

Fig. 1. Section of Three-Stage Centrifugal Pump

When the well is of considerable diameter the pump is placed upon a platform or support about 15 ft. above the average water level, and connected with some form of pumping head at the top by means of a long rod or shaft. Both plunger and centrifugal pumps are used for this purpose. When centrifugal pumps are employed, the "vertical" type is used, as it may be driven through a vertical shaft extending to the top of the well. Sometimes the pump is submerged, but it is much more easily cared for, and receives better attention, when located above the water level.

In the case of driven wells, either a special form of plunger pump or an "air-lift" is employed. The action of the latter consists in discharging compressed air into the lower end of a pipe extending to the bottom of the well. In rising to the surface, air pistons are formed in the pipe which bring up a certain amount of water with them. The advantage of the air-lift is the absence of moving parts. There is, therefore, nothing to get out of order in inaccessible places. Furthermore, it is inexpensive to install. On the other hand, it is not as efficient from a power standpoint as other pumps, due to the amount of compressed air required to operate it.

Special Mill Conditions

So far as the power plant is concerned, the conditions in textile mills do not differ from those found in other industrial establishments. The chief difference occurs in process work where various heavy and corrosive liquids must be handled. In all cases of this kind, the pump, whatever its type, must be designed with reference to the withstanding of corrosion and the easy renewal of parts so exposed.

Pump Installation

Pumps of all kinds should be set as near the source of supply as possible, and upon a substantial floor or foundation, according to the size. All pipe connections, both for suction and discharge, should be as direct as possible and at least of the sizes called for by the pump outlets. The friction increases rapidly with the velocity and thus produces a continuous waste of power, which though small, may amount to a substantial total during the year. For example, a 3-inch pipe discharging 150 gals. per minute produces a velocity of 6.8 ft. per second and a friction head of 7.72 ft. per hundred feet of length.

If a 2½-in. pipe were substituted, the velocity would rise to 9.8 ft. per second, and the friction head to 18.72 ft.; while if a 2-in. pipe were used, the friction head would rise to 54 ft. In the first case the horsepower required for overcoming the friction in the pipe is $(150 \times 7.72) \div 4{,}000 = 0.29$, and in the third $(150 \times 54) \div 4{,}000 = 2.02$, or $2.02 \div 0.29 = 7$ times as much.

In a general way, pipe sizes corresponding to the pump outlets will prove satisfactory for runs less than 100 ft., but for longer ones they should be checked by a friction table, and velocities limited to about 200 ft. per minute in the suction pipes of reciprocating pumps and 400 in the discharge. In the case of centrifugal pumps, a velocity of 600 ft. is commonly allowed in the discharge pipe.

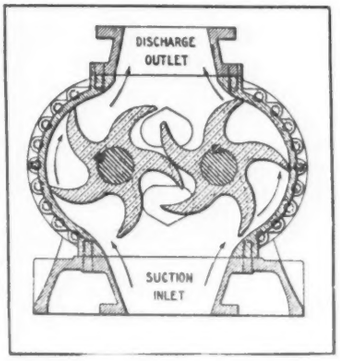

Fig. 2. Positive-Action Rotary Pump

Resistance of Fittings

An elbow fitting produces a resistance equivalent to 7 ft. of pipe for a 2 in. size, and 30 ft. for 6 in., while a globe valve is equivalent to 8 and 50 ft. of pipe respectively. A 6 in. lift check valve produces a resistance equal to 200 ft. of straight pipe, and so on. All of these facts should be kept in mind when laying out the connections for a pump, and the frictional resistance reduced to the lowest practical point, because it is a continuous load.

Suction

Another important factor is the matter of suction. While, theoretically a pump can lift water by suction 33.4 ft. at sea level when it has a temperature of 60 deg., it is not possible in practice, owing to imperfections in the pump and the vapor tension which exists over the surface of the water according to its temperature. In the case of the smaller sizes of pumps, with good valve adjustment and short suction pipes, it is usually practicable to raise cold water 20 ft. in this way. For those having an 8 in. discharge and larger, it should be limited to 15 ft.

In the case of centrifugal pumps, the suction pipe should be made one size larger than the inlet to the pump casing if the suction lift, for any reason, must exceed 15 ft., and at least two sizes if the length exceeds 100 ft. As the temperature of the water rises, the possible lift decreases, owing to the formation of vapor in the pump, until at 140 to 150 deg. the power to lift by suction ceases, and above that the water must flow to the pump under a head increasing with the temperature. The following table gives the average practical suction lift and suction head for water at different temperatures:

Temp. of Water, Deg. F.	Possible Suction Lift, in Ft.	Necessary Suction Head in Ft.
60	20	—
80	16	—
100	12	—
120	8	—
140	3	—
160	—	1
180	—	5
200	—	9
212	—	12

These figures will vary somewhat for different pumps and conditions of operation, but represent average practice.

Care and Adjustment

A pump will respond to good treatment the same as any other machine, although it probably receives a minimum amount of attention in the average textile mill. The leaks due to excessive wear, and the friction caused by poor adjustment, are practically invisible, and there is usually no way of measuring them; so the waste of power goes on without interruption. The water which leaks past the valves and piston on the forward stroke requires just as much power as though it passed out through the discharge pipe, while the friction due to tight packing and poor alignment of piston and valve rods goes into useless and costly heating of the water passing through the pump.

The waste of power per unit per day may be small, but the aggregate from the entire plant during the year represents the waste of a large coal pile. All pumps should be carefully inspected and cleaned at regular intervals, and leaks and friction reduced to a minimum by suitable adjustments and the renewal of parts when necessary.

GLOVERSVILLE, N. Y. The Glenwood Silk Mills, Inc. are repairing the part of their plant recently damaged by fire.

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CENTRAL CAROLINAS

Standardization of Textile Mill Lubrication*

Silk Mill Machinery Lubrication—Weaving and Knitting Machinery Lubrication—Requirements as to Character of Lubricant and Frequency of Oiling of the Motions Found on Types of Equipment Employed—Creeping and Throwing of Oil and Resulting Stains on Textile Materials

By Allen F. Brewer

IN the silk mill, machine lubrication is an important matter due to the fact that both the wearing parts and the product require the utmost protection. As a general rule, silks will be of a more perishable nature than other textiles and their unit value will be higher. So every care in the handling of lubricants and the prevention of oil spots is warranted.

In carrying out the lubrication of silk mill machinery from the very beginning of manufacturing, the most careful selection and application of lubricants is essential. The selection of oils and greases is quite as important a matter as their application, for, unless they are of the highest purity, our efforts to apply them efficiently may be of no avail. But one or two spots of an inferior lubricant will, in all probability, mean the rejection of a certain amount of goods. On the other hand, a spray of stainless oil may not be detrimental in cases where the subsequent scouring action will remove practically all of it, or where colors or patterns are to be used in which such stains will not show up in glaring evidence.

Throwing Machinery

Following the process of soaking, from a lubricating point of view we will be essentially concerned with throwing machinery, or the various spinners, doublers and winding machines which serve to put the silk into thread of suitable size, strength and compactness to fit it for weaving or knitting. As a rule, the lubrication of such machines may involve certain problems, especially where oils or greases are used which have been improperly refined or are otherwise unsuited to the nature of the service. Perhaps the greatest difficulty will be experienced with oil throwing from the rapidly rotating spindles.

Oil throwing may of course mean oil stains, and these latter may be more or less of a detriment, dependent upon the stage of operation in which they occur. For example, if they occur on thread prior to dyeing, and if the oil is not too dark or contaminated with foreign matter, it is quite possible to remove them satisfactorily in the subsequent processes of boiling, scouring and bleaching. But where thread has been skein dyed, and oil spots occur during fabrication of the product on the loom or knitter, they may be much more serious and costly.

As a result, every effort must be made to prevent oil throwing. On the loom this may be attained by the use of certain grades of semi-fluid oils or liquid greases, which in addition, contain sufficient animal oil in compound to render them emulsifiable and more readily washed out. Spindle lubricants, however, must be fluid oils, ranging in viscosity or body from 60 to approximately 180 seconds Saybolt, at 180 deg. F. They should always be very highly refined products, and filtered to reduce their color as much as possible, for the lighter or paler a spindle oil, the more remote will be the possibility of permanent oil stains resulting.

To preclude oil stains or the throwing of spindle oils it is advisable to use every care in the filling of spindle reservoirs. In general these should never be more than half full of oil. Where the latter is carried at a higher level there will be considerable possibility of the oil working upward, due to the combined effects of centrifugal force and capillary attraction, to perhaps drip or be thrown onto the silk which is carried by adjacent spindles. Furthermore, the higher the oil level, the greater may be the power consumption per spindle. The self-oiling spindle is regarded by many throwsters as an effective preventative in regard to the above, being claimed as dependable, subject to effective lubrication, adaptable to higher speeds, and in many cases giving greater production.

Frequency of Oiling

While the frequency of oiling of spindles will depend on their type, mode of construction and operation, varying from once a day to perhaps once every three months, in regard to the manner of oiling and the desirable characteristics of the oil, they are all very much alike. In general, no oil should be allowed to run over or drip onto the outside of the spindle mechanism or the driving belt. Especially must this be carefully guarded against when replacing the spindles, for there will be a tendency towards splashing or the forcing of oil above the top of the reservoir, in which event it will very likely run onto the whirl or belt. In order to carry out spindle lubrication with the least effect on the power plant, it is considered good practice in some mills to renew spindle oil in sequence, and not oil them all more or less simultaneously. This latter procedure has been claimed by engineers to involve a decided increase in power consumption due to the additional energy which may be necessary after re-oiling.

For the lubrication of silk mill spindles it is possible to use either a straight mineral oil or a compounded product of approximately the same viscosity. The use of a few per cent of compound such as lard oil or pale neatsfoot oil in a spindle oil will not only perhaps give better lubrication, due to the greater "oiliness" of the animal oil, but also, in event of contamination of the silk, oil stains can be more readily removed or neutralized in the process of dyeing, especially where darker colors and but little contrasts are involved.

In the lubrication of other wearing parts of spinners, doublers, winding frames, warpers, reels, and the various machinery employed in the handling of silk, a straight mineral machine oil of from 200 to 400 seconds Saybolt viscosity at 100 deg. F. will generally give the best results. As a rule, the majority of the wearing parts will be at the sides or ends, and so located that the possibility of thrown or dripped oils will be comparatively slight, provided the bearings are not flooded with oil. In regard to frictional drives, it is important to remember that these should run dry, and be protected from contact with oil; otherwise slippage and lost motion may occur, as well as thrown oil should the bands or tapes become saturated. If this occurs, it can often be corrected or the oil removed by holding chalk or whitening against the moving band or belt, and then scraping the surface with a blunt edged knife.

Weaving Machinery

In the lubrication of weaving machinery we will be essentially concerned with looms and jacquard mechanisms. These machines will vary extensively in size and operating speed according to the products being handled. For example, silk and cotton looms will involve relatively high speed conditions, as compared with the heavier carpet loom. On the other hand, from a constructional point of view they will be very similar by virtue of the function which they perform. As a result, in studying their lubrication we must take all this into consideration, especially in connection with the application of the lubricants. The larger and heavier the wearing parts, of course, the more body may be required in the lubricating film to withstand the operating pressures. Furthermore, the higher the speed the greater will be the possibility of oil being splashed or thrown onto the goods; especially will this be true when the bearings of crank mechanisms, for example, are over-lubricated.

On weaving machinery, oil spots must be guarded against more carefully than on any other type of textile equipment. The fabric is approach-

LUBRICATION CHART FOR SILK MACHINERY

MECHANISM	GRADE OF LUBRICANT
Spinner Spindles	Stainless textile oil or a 70 to 100 viscosity straight mineral spindle oil.
Ball and Roller Bearings Housings oil-tight	100 viscosity mineral oil
Where oil leakage may be possible	Liquid grease or non-fluid oil
Gears and Driving Chains	Medium grease or steam cylinder oil
Miscellaneous other wearing parts	200 to 400 viscosity machine oil

LUBRICATION CHART FOR LOOMS

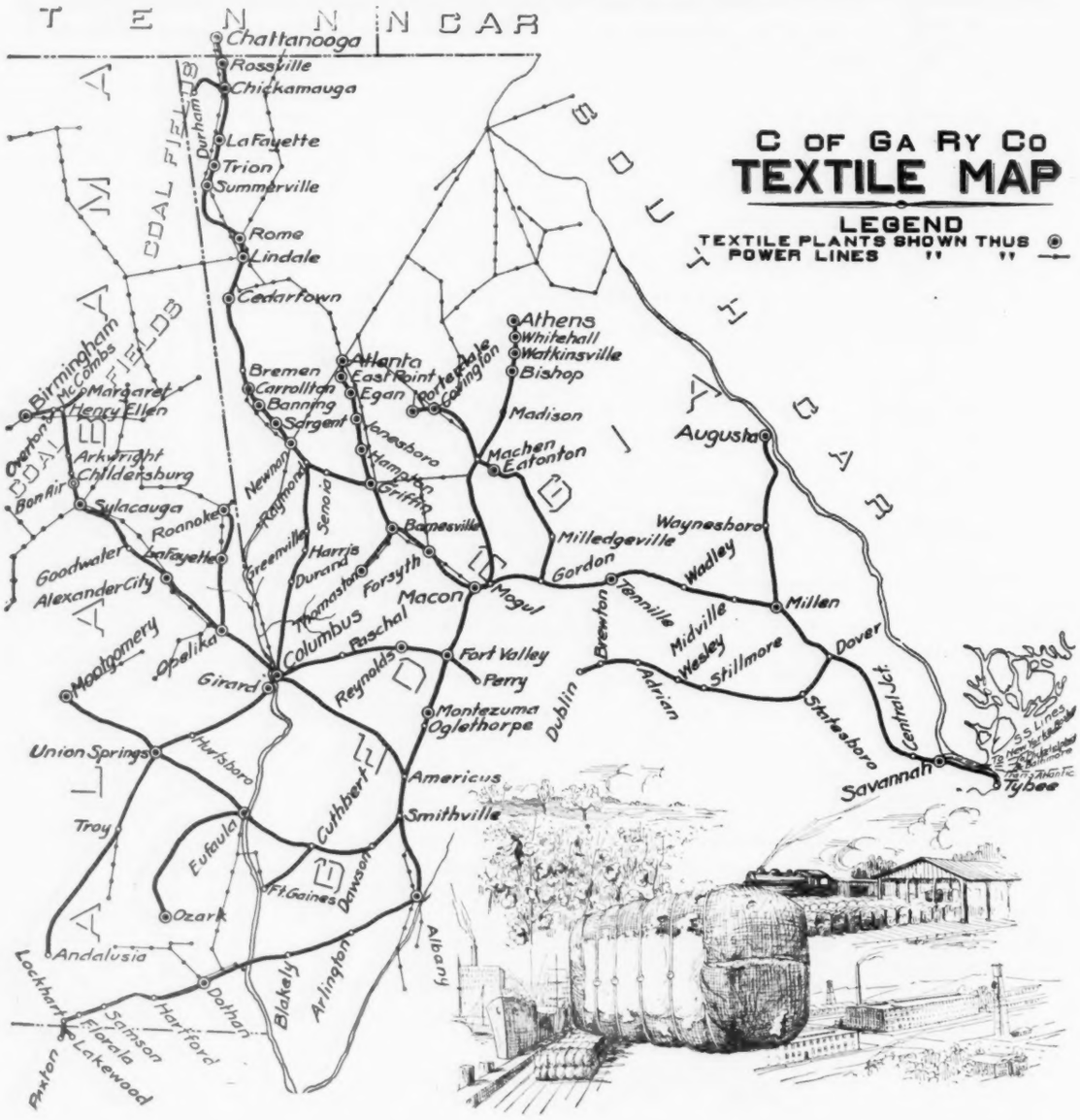
MECHANISM	GRADE OF LUBRICANT
Picker Spindles	Stainless textile oil, of a viscosity of about 100 seconds
Other Machine Bearings	200 to 400 viscosity mineral oil; stainless textile oil or light stainless grease where conditions such as wear or prolific oil-throwing warrants
Cloth Roll Bearings	500 to 750 viscosity machine oil or medium liquid grease
Driving Gears	Medium cup grease or steam cylinder oil
Jacquard Machines	Medium liquid grease or non-fluid oil; or, stainless textile oil where bearing clearances warrant and drip pans are installed

LUBRICATION CHART FOR KNITTING FRAMES

MECHANISM	GRADE OF LUBRICANT
For Guides, Sinkers, Roll Take-ups, Needles, Pressers, Cams and Other Wearing Parts in Close Proximity with Fabric	Stainless textile oil of about 100 seconds viscosity
Slides	200 to 400 viscosity machine oil
Cams, Gears and Chains	Non-fluid oil, liquid grease or about a 400 viscosity machine oil
Frame Bearings, Etc.	200 to 400 viscosity machine oil

*Previous articles appeared in Dec. 6, 1924, Jan. 3, Mar. 7, Apr. 4, May 9 and June 6, 1925 issues.

Logical Location for Textile Industries



Georgia has 219 textile plants, of which 125 or 57% are in cities served by the Central of Georgia.

Alabama has 91 textile plants, of which 32 or 35% are in cities served by the Central of Georgia.

The fact that these are successful, going concerns is convincing evidence that they are properly located.

This territory being supplied with hydro-electric power in ample quantity, and with nearby coal fields of Alabama and Tennessee, the question of power is fully solved.

While other essential requirements, such as labor, climate, adequate transportation and nearness to raw materials all combine to enable the Central of Georgia territory to offer those establishing new mills a location that is ideal and of proven value.

Further and detailed information will be gladly furnished upon request.

J. M. MALLORY, General Industrial Agent

CENTRAL OF GEORGIA RAILWAY

Savannah, Georgia

ing the finished state, and the possibility of effectively removing oil or grease spots is reduced. If the yarn has been skein dyed in light colors, the problem becomes all the more difficult, for subsequent finishing of the woven goods calls for none of the intensive wet process work which is usually relied upon to remove stains and dirt.

Where the cloth is to be piece dyed, there is more chance of clearing up stains, provided they are due to pale, filtered or stainless oils or greases. If caused by dirty, carbonized machine oil it is a difficult matter. As a rule the darker the oil the more permanent and evident will be the stains. Furthermore, the longer the stain is allowed to soak in, the more difficult will be its removal. One method recommended by certain authorities is to daub fresh oil stains, if made by straight mineral oils, with a swab soaked in a fixed oil such as pale neatsfoot or lard oil. In this way the mineral oil will be converted to an emulsifiable compound which can be more satisfactorily removed in the scouring or bleaching process.

Under-Lubrication

To reduce the possibility of stains there will be considerable tendency on the part of many operators to underlubricate their machines, regarding excessive wear of the bearings as the lesser evil. But this is not absolutely necessary for, as wear increases, noise and vibration will increase, accuracy of operation will decrease, and any lubricant that is applied will tend to run more freely through the clearance spaces and perhaps drip to certain reciprocating mechanisms, to be more readily thrown off due to the jerky motion.

Picking motions are typical of parts where construction and speed may have a direct influence on the occurrence of oil spots. The picker spindles, especially on relatively high speed cotton and silk looms, are points which may frequently cause oil spots or splashing. For this reason it is advisable to use a stainless oil for picker spindle lubrication, even though such a high grade product may not be required on any other wearing parts of the loom. Usually picker spindles can be best lubricated by hand, the oil being evenly but sparingly applied.

Jacquard Machine

The overhead jacquard machine requires similar care in its lubrication, due to the location and the possibility of dripping of the lubricant as well as throwing occurring. As a result it is advisable to use a highly refined, stainless lubricant on all wearing parts. Where oil is employed, this should never be applied in excess to cylinder hammers, wires, etc., for there will always be a possibility of it running down onto the goods or cords. Oil on these latter will cause the cords to deteriorate and break prematurely. In view of the location of such a machine, it will generally be well to locate an oil-tight drip pan below the supports as a protection to both cords and fabric. There will not be much tendency for oil to be splashed unless it is applied in excess, so side guards are generally not necessary.

Where a drip pan is not installed it will often be best to use a light, non-fluid oil or liquid grease, wherever possible, on jacquard mechanisms. Such a product will have less tendency to drip, thereby not only insuring better and more positive lubrication but also reducing the probability of oil spots on the goods.

Knitting Machinery

In the knitting mill as elsewhere in the textile industry, the matter of lubrication is an important factor. Essentially there are two types of knitters involved; i.e., the circular and the flat machine. While these will naturally differ from a constructional point of view, as far as lubrication is concerned the essential problems will be very much alike. Generally speaking, the questions of (a) oil stains, (b) excess power consumption due to friction, (c) repair expenses, and (d) replacement losses, will be paramount, and subject to more or less correction by one general means — effective lubrication. To attain this, naturally the purest and most highly refined grades of lubricant will be necessary.

In the opinion of many, the stainless textile oil is more of a requisite on the knitting frame than any other type of textile machine, due to the extensive possibility of creeping and dripped oils. On skein-dyed fabrics of intricate color designs, oil stains will be especially detrimental, for they practically ruin the product from a marketing point of view.

Circular Machines

On knitting machines of the circular type, the roll take-ups and worm gear attachments are among the most general sources of trouble, especially when the knitting oil has been carelessly selected and applied. In the lubrication of such mechanisms the object is to not only reduce the load on the needles by the reduction of friction, but also to guard against gumming. In event of the occurrence of this latter, the rollers will probably function in a sluggish manner. Even with a high grade, light viscosity, stainless knitting oil there will be possibility of gumming occurring due to accumulations of dust, lint or dirt. As a result, it is generally best to remove these mechanisms about once a month and clean them in kerosene or gasoline, to effectively remove gummy ccumulations as mentioned above.

Oil spots will be liable to occur from the lubrication of needle cylinders and dials. To enable the attainment of relatively automatic lubrication, self-feeding oil cups are adaptable and very often installed on such frames. Like the sight-feed oil cup, however, they depend on the operator for starting and stopping the flow of oil; therefore, careful attention must be given to them. Especially is this true when stopping the machine, for if the oil cups are not promptly turned off, they will continue to feed due to their positive action, perhaps flooding the machine and being the cause of oil spots and stains, or even streaks.

In addition to the stainless characteristics brought about by suitable compounding with a fixed or animal oil, such as lard or neatsfoot oil, a knitting oil should have as low a tendency to evaporate as possible, for thereby will the maintenance of the requisite film over a longer period of time be assured, with a consequent decrease in the amount of oil used. In other words, the less oil used to give the needed lubrication, the more remote will be the chance or opportunity for the occurrence of oil spots.

Flat Knitting Machines

Much the same conditions will be involved in the lubrication of flat knitting machines. Primarily, the object is to lubricate with as little oil as possible, to reduce the possibility of oil spots occurring on the fabric. To effectively serve the parts, three different types of lubricant will be necessary; i. e., a light-bodied compounded, stainless oil for the lubrication of all wearing parts which are located adjacent to the yarn or fabric; a heavier bodied, straight mineral machine oil (of from 200 to 400 seconds Saybolt viscosity) for gear, camshaft and roll bearings; and a medium consistency non-fluid oil or liquid grease free from acid or alkali, for gears, chain drives and cams. With these two latter products, a certain amount of inter-changeability is pos-

(*Continued on page* 83)

Power Data Sheets

By F. S. Root

POWER REQUIRED TO OPERATE COTTON WEAVING LOOMS. 1

HORSE POWER	.254	.214	.273	.286	.311	.232	.257	.256
WARP	24×31	24×31	24×31	24×38	27½×38	28×35	28×35	28×34
WEFT								
PICKS PER INCH	68×80	68×80	72×80	64×90	64×88	80×84	80×96	84×92
PICKS PER MINUTE	142	142	160	160	170	144	144	147
WIDTH	49"	45"	40"	36"	32"	40"	48"	40"
MAKE OF LOOM	AMOSKEAG-WHITIN	"	LOWELL-SHOP	"	"	WHITIN	AMOSKEAG	WHITIN

POWER REQUIRED TO OPERATE COTTON WEAVING LOOMS 2

TEST "A"

MOTOR. 75 H.P. 900 R.P.M., 550 Volts. 3 phase, 60 cycles.

LOAD. Group Drive of 192 Draper Automatic Looms 44" Wide, at approx. 166 Picks per Min.

TEST DATA

Speed of Motor, fully loaded ____ 890 R.P.M.
Full load Input to motor _____ 83.6 H.P.
Friction Load, (Motor, shafting and loose pulleys) ____ 21.4 H.P.
Motor Efficiency ____ 90 %
Motor Output _____ 75.2 H.P.
Number of Looms per Horsepower ___ 2.5
Horse power per loom ___ .391

NOTE

Motor has 2 pulleys on one end of rotor shaft, belts going in opposite directions, and thus neutralizing belt-pull on motor foot-bolts.

POWER REQUIRED TO OPERATE COTTON WEAVING LOOMS. 3

PLAIN NARROW LOOMS.

TEST No. 1

MOTOR. 60 H.P., 720 R.P.M., Driving 208 Looms from two overhead shafts.
Motor, Shafting & Belts ___ 8.5 H.P.
Total Input to Motor, all Looms at work ___ 45.0 H.P.
Gross H.P. per Loom ___ 0.216 H.P.

TEST No. 2

MOTOR. 75 H.P. 720 R.P.M., Driving 275 Looms from two overhead shafts.
Motor, Shafting + Belts ___ 11.8 H.P.
Total Input to Motor, all Looms at work ___ 56.0 H.P.
Gross H.P. per Loom ___ 0.204 H.P.

TEST No. 3

MOTOR. 75 H.P., 720 R.P.M. Driving 277 Looms from two overhead shafts.
Motor, Shafting + Belts ___ 10.7 H.P.
Total Input to Motor, all Looms at work ___ 51.5 H.P.
Gross H.P. per Loom ___ 0.186 H.P.

AVERAGE OF TESTS 1, 2, + 3.

Gross H.P. per Loom ___ 0.202 H.P. or Five Looms per Horsepower.

POWER REQUIRED TO OPERATE COTTON WEAVING LOOMS 4

DRAPER AUTOMATIC LOOMS

TEST B.

MOTOR. 25 H.P. 1200 R.P.M., 550 Volts, 3 phase, 60 Cycles.

LOAD. Group drive, of 47 Draper Automatic 40" Looms.

TEST DATA

Average Input to Motor ___ 15.5 H.P.
Motor Efficiency _____ 88¼ %
Load at motor pulley ____ 13.6 H.P.
Looms per Horsepower ___ 3.45
H.P. per Loom _____ .289

TEST C.

MOTOR. 40 H.P. 900 R.P.M. 550 Volts, 3 Phase, 60 Cycles.

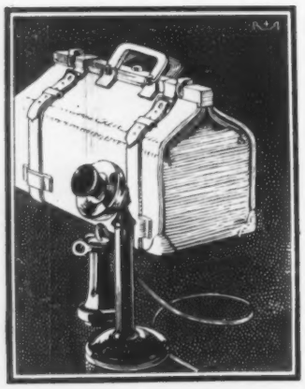
LOAD. Group drive of 112 Draper Automatic 40" Looms.

TEST DATA

Average Input to Motor ___ 35.6 H.P.
Motor Efficiency _____ 89 %
Load at Motor pulley ___ 31.7 H.P.
Looms per H.P. _____ 3.53
H.P. per Loom _____ .283

Above is presented the eighth installment of a series of power data sheets appearing regularly in Power and Engineering issues of TEXTILE WORLD.

95% of sales made by TELEPHONE



DAILY TOLL AND LONG DISTANCE telephone calls into three states sell $2,850,000 worth of products annually for a well-known oil company of Pennsylvania. Representatives visit the customers at intervals, but the telephone brings in the daily flood of orders. Of the firm's total annual business, 95% is solicited and sold by telephone. And while telephone sales are pushed in New York, Pennsylvania and Ohio, long distance calls to Texas and Oklahoma points keep the house in touch with market conditions.

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BELL LONG DISTANCE SERVICE

Report of Committee D-13

(*Continued from page 64*)

ances and Test Methods for Cotton Yarns, Single and Plied and the Tentative Specifications for Tolerances and Test Methods for Cotton Sewing Threads are recommended to be revised as follows and continued as tentative in their revised form:

Tentative Specifications for Tolerances and Test Methods for Cotton Yarns, Single and Plied.—

Section 4.—Change the definition for the term "direction of twist" to read as follows:

"*Direction of Twist.*—In the case of yarn, the yarn has right-hand twist if, when it is held vertically, the spirals or twists are seen to incline upward in a right-hand direction, and has left-hand twist if the spirals or twists are seen to incline upward in a left-hand direction."

Section 6.—After the present second sentence, add a new sentence to read as follows:

"The drums of the testing machine shall consist of cylindrical spools not less than one inch in diameter and not less than one inch in width, so supported that at least one shall turn freely upon its axis."

Section 7.—Add a new Section 7 to read as follows, renumbering the subsequent sections accordingly:

"*7. Strength Yarn on Beams (Skein Test for Yarn on Beams).*—Yarn received on beams shall be given the skein test and skeins shall be prepared in the following manner. Place the beam containing the yarn to be tested on two bearings sufficiently high from the floor so that the beam can be turned easily. Directly in front of the beam and at least 15 ft. from the beam, a small table shall be placed, the top of which will be approximately the same height as the top of the beam of yarn. On this table a standard yarn reel shall be placed directly in front of the beam. A small crank arm shall be attached to one end of the beam shaft. Four ends of yarn, taken from the beam, shall be attached to the yarn reel in the regular manner, such as is done when testing yarn from bobbins. One operative shall turn the beam slowly in the proper direction so that the yarn will unwind, and the second operative shall turn the reel fast enough to take up the yarn as it comes off the beam. This operation shall be continued until 120 yd. or the desired length for testing has been taken from the beam. The four skeins shall then be taken from the reel and tested in the regular manner. If it should be necessary to test more ends, the same method of testing shall be followed.

"NOTE.—In using these beams after these ends have been taken off, a set of spools containing the same kind of yarn as is on the beam can be placed in behind the beam on a small creel, to fill out the number of ends that have been used for testing. When the ends come up on the beams that have been used for testing, the auxiliary spools in back of the beams can be broken out."

Section 7.—Omit from the fourth to the last sentences reading as follows:

"This test shall be used for yarns received on beams, etc. To prepare specimens for test, at least 60 ends, 48 in. in length, shall be unwound from the beam. The bundle shall be held at one end to allow ends to twist upon themselves. A knot shall be tied in each end and the bundles allowed to condition as specified in Section 7. After conditioning, one end of the bundle shall be clamped in the head end jaw of any twist counter, and the other end shall be held by any suitable means, applying approximately the same tension as is used in preparing skeins on reels. The bundle shall be untwisted until strands are parallel. 60 ends counted off and cut from the bundle to a measure of 1 yd. in length. Knots shall again be tied in each end and the size of the 60 yd. determined in accordance with Section 13. After the size has been determined the strands shall again be made parallel, removed one by one, and broken on a single strand tester. The average of 20 breaks shall be reported as the average strength."

Tentative Specifications for Tolerances and Test Methods for Cotton Sewing Threads.

Section 4.—Change the definition for the term "direction of twist" to read as follows:

"*Direction of Twist.*—In the case of sewing thread, the thread has right-hand twist if, when it is held vertically, the spirals or twists are seen to incline upward in a left-hand direction, and has left-hand twist if the spirals or twists are seen to incline upward in a right-hand direction."

Section 6.—Change to read as follows by the addition to the italicized words and the omission of those in brackets:

"In addition to meeting the foregoing requirements, sewing thread shall be subjected to a sewing machine test under actual factory conditions [and in the event that any thread causes more than a reasonable number of stoppages it shall be subject to rejection]. *In the event of any thread apparently failing to operate properly, it shall be judged by comparison on any given machine under identical conditions, with thread from a lot known to have previously operated satisfactorily.*"

Section 7.—Change to read as follows by the addition of the italicized words and the omission of those in brackets:

"All threads shall be tested by the single strand test method. A single strand tester of proper capacity with jaws set 10 in. between grips and having a speed of pulling jaw of 12 in. per minute shall be used. The average of [four] *ten* breaks from each of [ten] *five* spools or packages shall be the average strength. Any test during which the thread breaks at the jaw due to pinching or cutting shall not be included in the average."

Section 9.—Add a new Section 9 under the central heading "Length of Package," to read as follows, renumbering the subsequent sections accordingly:

"(*b*) (*Alternate Method*).—The length of package of sewing thread shall be determined by multiplying the number of yards per pound, obtained as outlined in Section 8, by the net weight in pounds of the thread in package to be tested.

"(*b*) (*Alternate Method*).—The length of package of sewing thread shall be determined by measuring the entire length over a reel having a 1½ yd. perimeter, taking three full turns around the reel and delivering thread to a take-up drum. The yardage shall be noted on reel dial.

"(*c*) (*Alternate Method*).—The length of package of sewing thread shall be determined by measuring the thread in the form of skeins prepared on a reel having a 1½ yd. perimeter. In no case shall the yardage of these skeins exceed that specified in Table II. The total yardage of skeins thus prepared from a package constitutes its length.

TABLE II

Equivalent Single Size	Length of Skein, Yd.
Finer than 12's	240
6's to 12's, inclusive	120
Coarser than 6's	60

The Tentative Specifications for Textile Testing Machines have been completely rewritten and are appended hereto in their proposed revised form.

W. F. EDWARDS,
Chairman.

K. B. COOK,
Secretary.

Textile Testing Machines

(*Revised Tentative Specifications*)

1. Textile testing machines shall be of the inclination balance or pendulum type.

2. The maximum angle of swing of the pendulum in textile testing machines shall be 45 deg. from the vertical.

3. The minimum diameter of drum for transferring the pull on the specimen to the swinging pendulum shall be 2 in.

4. In selecting the proper capacity of a textile testing machine for a given sample of fabric or yarn, the maximum capacity of the machine shall not exceed that at which the pendulum reaches a swing of 45 deg. from the vertical. The minimum capacity of the machine when used for a given sample of fabric or yarn shall not be less than 20 per cent of the above maximum capacity.

5. (*a*) *Fabric Jaws.*—The clamps of textile testing machines for use upon fabrics shall consist of flat metallic jaws pressing directly against the specimen. One gripping surface shall be hinged or swiveled and the other shall be rigidly connected to the frame of the jaw. The pressure between the jaws shall be secured by any suitable mechanical device so constructed as to grip the fabric firmly before the testing load is applied and to prevent visible slippage during the progress of the test.

(*b*) *Skein Jaws.*—The drums of testing machines for yarn skeins shall consist of cylindrical spools not less than 1 in. in diameter and not less than 1 in. in width, so supported that at least one shall turn freely upon its axis.

(*c*) *Individual Strand Jaws.*—The jaws or clamps for tests upon individual strands of yarn shall be of the cylindrical or drum type, so arranged that the strands of yarn shall pass around not less than 180 deg. circumference before being clamped or fixed in the jaw. The length of the specimen shall be considered from center to center of drums. The minimum diameter of the cylinder or drum shall be ½ in.

6. The width of jaw in a direction perpendicular to the specimen shall in no case be less than 1 in. The depth of jaw in a direction length-wise of the specimen shall in no case be less than 1 in.

7. The dial pointer of textile testing machines shall be so arranged as to be easily adjustable to a zero reading for any weight of jaw or other fixture in the testing machine. The dial pointer shall be so counter-weighted as to prevent undue fluctuations in its position due to backlash, whatever the dial reading may be.

8. Textile testing machines shall be power driven or operated in such a manner as to produce a uniform and accurate movement of 12 in. per minute for the pulling jaw.

9. In calibrating textile testing machines, dead weights of accurate amounts shall be used, but these weights shall be applied at a speed of 12 in. per minute, corresponding to the standard jaw speed. The machine shall otherwise be arranged in an entirely similar manner to that used in testing fabric.

Numbered Cotton Duck Tolerances

(*New Tentative Specifications*)

1. Tolerances shall be the limit within which a textile must come in its specified characteristics in order that it shall constitute a good delivery on contract. They may be classified as the allowable limits of the quantitative characteristics of the fabric as defined in the specifications. The following tolerances are based upon the Standard General Methods of Testing Cotton Fabrics (Serial Designation: D 39) of the American Society for Testing Materials.

I. WIDTH

2. The average width determined by measurement shall be as specified with the following tolerances:

Width, in	Tolerance, in. Over	Under
Up to and including 36	¼	¼
37 to 60, inclusive	⅜	¼
61 to 80, inclusive	⅜	⅜
81 to 120, inclusive	¼	⅜

II. WEIGHT

3. The weight of the fabric determined by test shall be not more than 2.5 per cent over or under the specified weight.

III. THREADS PER INCH

4. (*a*) The average count of warp ends per inch determined by test shall be not more than 1½ ends over or under the specified count for fabrics counting not over 40 ends per inch and not more than 2 ends over or under for fabrics counting over 40 ends per inch.

(*b*) The average count of filling picks per inch determined by test shall be not more than 1 pick over or under the specified count for fabrics counting not over 25 picks per inch, and not more than 1½ picks over or under for fabrics counting from 25½ to 32 picks per inch, and not more than 2 picks over or under for fabrics counting over 32 picks per inch.

IV. STRENGTH

5. The average tensile strength of the warp and the average tensile strength of the filling shall be not less than the average specified tensile strength.

Specifications for Knit Goods

(*New Tentative Specifications for Tolerances and Test Methods*)

1. These specifications are intended to be applicable to the examination of those classes of knit goods which later enter into a manufacturing process. Where a material requires special treatment, specific methods will be described as they are developed for that material and such special tests will have precedence over these general specifications.

Tolerances

I. WIDTH

2. The width as found by test shall not be more than 3.5 per cent above or 3.5 per cent below the specified width.

II. WEIGHT

3. The weight as found by test shall not be more than 5 per cent above or 5 per cent below the specified weight.

III. COUNT

4. The count of wales and courses as found by test shall not be more than 5 per cent above or 5 per cent below the specified number.

IV. TENSILE STRENGTH

5. No tolerance shall be permitted on tensile strength, the specified tensile strength being a minimum.

Methods of Testing

V. MOISTURE REGAIN

6. (*a*) The moisture present shall be determined as follows: Portions of the samples which are taken for the determination of weight (as described in Section 10 (a)), weighing from 3 to 5 g. shall be placed in any suitable receptacle and the weight determined before and after drying in a ventilated oven at 105° C. The drying shall be continued until there is no change in weight, due care being taken to desiccate the receptacle and contents until cool, before weighing.

(*b*) The loss in weight shall be considered moisture regain and the percentage estimated on the sample in bone-dry condition.

(*c*) Two determinations should be sufficient for ordinary purposes. Additional determinations may be required if desired.

VI. DETERMINATION OF GREASE

7. (*a*) The amount of grease present shall be determined as follows: A representative sample which weighs about 5 g. taken from the samples prepared for strength tests shall be dried to constant weight in a ventilated oven at 105° C. It shall then be extracted with carbon tetrachloride in an apparatus as shown in Fig. 1, Section 8, of the Standard Methods of Testing Rubber Products of the American Society for Testing Materials. The extraction shall be continued for 8 hours and the extract dried to constant weight in a weighed flask at 105° C.

(*b*) The extract shall be considered grease and the percentage shall be reported on the dried sample.

(*c*) Two determinations of grease are

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usually sufficient. Additional determinations may be required if desired.

VII. PERCENTAGE OF COTTON AND WOOL

8. (*a*) The amount of cotton and wool present shall be determined by the so-called "caustic-potash" method. This method shall be carried out as follows: The sample which has been dried for moisture determination shall be boiled thoroughly in 1-per-cent hydrochloric acid, but not long enough to disintegrate the fibers. This shall be repeated until no residue is found upon evaporating the solution on a watch glass. This removes sizing, dyestuff, mineral loading soluble in hydrochloric acid, etc. The residue shall be extracted successively with alcohol and carbon tetrachloride until all soluble material is removed. It shall be dried at 105° C. and weighed. This weight represents combined cotton and wool.

The dried residue shall be treated with a solution of 5-per-cent caustic potash and boiled gently for 15 minutes. It shall be poured into 500 cc. of cold water; permitted to stand until the fibers have settled and the supernatant liquid decanted. It shall be filtered through a Gooch crucible, washed with hot water and finally with 10 cc. of alcohol. It shall then be dried and weighed. The loss in weight represents wool; the residue represents cotton, except that a correction shall be made for 3.5 per cent soluble cotton.

Example:

Preliminary Analysis		
Sample weight	5.000 g.	
Moisture	0.4370 g.	8.74%
Sizing, grease, etc.	0.1640 g.	3.28 "
Fibers (by difference)	4.3990 g.	87.98 "
Analysis of Bone Dry Fibers		
Wool (loss to caustic potash)	2.3200 g.	52.74 "
Cotton (residue)	2.0790 g.	47.26 "
Cotton (corrected) (2.0790 ÷0.965)	2.1544 g.	48.97 "
Wool (corrected)	2.2446 g.	51.03 "
Air Dry Analysis		
Wool plus normal regain	2.5588 g.	50.99 "
Cotton plus normal regain	2.2945 g.	45.73 "
Sizing, grease, etc.	0.1640 g.	3.27 "
Assumptions		
Normal regain for woolen goods	14% on dry weight	
Normal regain for cotton goods	6.5% on dry weight	
Cotton soluble in caustic potash	3.5% on dry weight	

(*b*) Two determinations of percentage of cotton and percentage of wool are usually sufficient. Additional determinations may be required if necessary.

VIII. WIDTH

9. (*a*) The width of the roll or piece (either split or tubular) shall be determined at five different places uniformly distributed along the full length of the roll or piece. The goods shall be drawn across a table without tension when the width is measured.

(*b*) The average of the five measurements shall be the width.

IX. WEIGHT

10. (*a*) Five samples which have been died out in staggered fashion across the roll or piece shall be weighed collectively. The die shall be square and 2 in. on a side. The material shall be without tension as it is sampled.

(*b*) The samples shall be weighed under prevailing atmospheric conditions except in the settlement of disputes. In such cases, tests shall be made upon samples which have normal moisture content, obtained by exposure for at least 4 hours to an atmosphere of 65 per cent relative humidity at a temperature of 70° F. (21° C.); or upon agreement, the samples shall be weighed in the dry condition as described in Section 2 of the Standard Methods of Testing Cotton Fabrics of the American Society for Testing Materials.

(*c*) The weight shall be reported as weight per square yard as calculated from the weight found.

X. THICKNESS

11. The thickness shall be measured by an automatic micrometer as described in Section 11 of the Standard Methods of Testing Cotton Fabrics.

XI. WALES AND COURSES

12. The number of wales and courses per inch shall be determined by counting a space of not less than 2 in. in at least five different places in the roll or piece. The material shall be laid out on a table without tension while the wales and courses are being counted.

XII. TENSILE STRENGTH

13. (*a*) The tensile strength shall be determined on an approved type of inclination balance breaking machine. The maximum capacity of the machine shall be such that the position of the pendulum shall not be greater than 45 deg. from the vertical when the break occurs. The minimum capacity shall not be less than 20 per cent of the above maximum capacity.

(*b*) The samples shall be tested under prevailing atmospheric conditions except in the settlement of disputes. In such cases, tests shall be made upon samples which have normal moisture content, obtained by exposure for at least 4 hours to an atmosphere of 65 per cent relative humidity at a temperature of 70° F. (21° C); or upon agreement, the tests shall be carried out upon samples which have been bone-dried as described in Section 2 of the Standard Methods of Testing Cotton Fabrics.

(*c*) The 1 by 1 by 1-in. grab method shall be used as described in Section 19 (*d*) of the Standard Methods of Testing Cotton Fabrics, with the single exception that the distance between jaws shall be changed from 3 in. to 1 in.

(*d*) At least 20 test pieces 4 in. in width by 6 in. in length shall be cut, ten in the direction of the wales and ten in the direction of the courses.

(*e*) The tensile strength in each direction shall be the average of the ten tests.

Testing Grease Wool and Allied Fibres for Scoured Content

(New Tentative Methods)

1. These methods of test are intended to be applicable for testing grease wool and allied fibres (such as mohair, alpaca, camel hair, cashmere, vicuna) which contain grease, sand, dirt and vegetable matter, for the scoured content.

2. The scoured content may be determined on the following forms of loose fiber in the grease:

(*a*) Wool (etc.) in the fleece;
(*b*) Necks, pieces, bellies;
(*c*) Pulled wool;
(*d*) Colonial scoured.

I. WOOL (ETC.) IN THE FLEECE

3. The tests to determine the scoured content of grease wool in the fleece shall be made on not less than 500 lb. but need not be on more than 1000 lb.

4. (*a*) The wool shall be weighed in the original bags or bales at the time and place of making the test. This shall be considered the gross weight.

(*b*) The weight of the coverings and bindings and the string used for tying the fleeces, known as the tare, shall be determined.

(*c*) The difference between the gross weight and the tare shall be the "normal net weight" of the grease wool.

5. To retain the full commercial value of the wool after scouring it shall be sorted previous to scouring into an agreed number of main and off sorts.

6. The tags, fribs, clips and paint clips shall not be scoured, but shall be weighed in the grease and reported separately as a percentage of the normal net weight of the grease wool.

7. The main sorts and off sorts excepting tags, fribs, clips and paint clips, shall be scoured separately in a train of at least 4 bowls, or in 3 bowls and a rinse box. The first three bowls shall contain the detergents and the last bowl or the rinse box shall contain clean running water.

8. The sorts shall be thoroughly dried in a heated mechanical dryer or on a heated table dryer and shall be bagged and weighed at once.

9. The total net weight of all the lots from the dryer, known as the "hot weight" of the scoured wool shall be determined.

10. The difference between the normal net weight of the grease wool and the hot net weight of the scoured wool shall be determined as the "hot shrink" of the grease wool, when expressed as a percentage of the normal net weight of the grease wool by the following formula:

$$\text{Percentage Hot Shrink} = \frac{\text{(Normal Net Weight of Grease Wool} - \text{Hot Net Weight of Scoured Wool)} \times 100}{\text{Normal Net Weight of Grease Wool}}$$

11. To determine the moisture in the hot net weight, three samples of not less than 1 lb. each shall be taken from the bags or bag representing about the beginning, the middle and the end of the run, immediately after the hot weight has been determined, and immediately placed in dry air-tight containers, the weights of which have been previously determined, and carefully weighed therein (check weight being made on containers); the net weight calculated, and the samples dried to constant weight in a ventilated drying oven maintained at a temperature of 230 to 240° F. (110 to 116° C.) as shown by two consecutive weighings not less than ten minutes apart without removing from the oven.

When two such weighings do not show a further loss of more than 0.1 per cent of the previous weighing the material is considered to be bone dry.

12. The difference between the average of the original (initial) weights of the samples, and the average of the bone dry weights of the same, shall be considered to be the moisture loss.

(*a*) When computed as a percentage of the initial weight it is the moisture content percentage.

(*b*) When computed as a percentage of bone dry weight it is the moisture regain percentage.

13. The standard condition of scoured wool shall be understood to be the condition in which it contains 12 per cent of its dry weight of moisture.

14. This 12 per cent shall be the standard regain of scoured wool.

15. The conditioned weight of the scoured wool shall be calculated from the following formula:

$$\text{Conditioned Weight} = \frac{\text{Hot Net Weight} \times 112}{100 \text{ plus Actual Regain}}$$

16. The true yield of the test lot shall be calculated from the following formula and shall be the actual yield of the entire lot.

$$\text{Yield, per cent} = \frac{\text{Conditioned Weight of Scoured Wool)} \times 100}{\text{Normal Net Weight of Grease Wool}}$$

17. If the loss in scouring is to be expressed as shrinkage, it shall be calculated from the following formula and shall be the actual shrinkage of the entire lot.

$$\text{Shrinkage, per cent} = \frac{\text{(Normal Net Weight of Grease Wool} - \text{Conditioned Weight of Scoured Wool)} \times 100}{\text{Normal Net Weight of Grease Wool}}$$

18. Wool shall be considered thoroughly scoured when tests by the Soxhlet Extraction Apparatus do not show a loss of more than one per cent of the weight of the conditioned scoured wool before testing.

19. Grease and solubles not to exceed a fixed percentage may be left in scoured wool by agreement, and tests to determine this percentage shall be made by the Soxhlet Extraction Apparatus.

II. NECKS, PIECES AND BELLIES

20. The tests to determine the scoured content of necks, pieces and bellies shall be made on not less than 500 lb. but need not be on more than 1000 lb. wool in the grease.

21. (*a*) The wool shall be weighed in the original bags or bales at the time and place of making the tests. This shall be considered the gross weight.

(*b*) The weight of the coverings and bindings of the bales, known as the tare, shall be determined.

(*c*) The difference between the gross weight and the tare shall be the "normal net weight" of the grease wool.

22. The test for scoured content shall be made as described for wool in the fleece in accordance with Sections 5 to 19, inclusive.

III. PULLED WOOL

23. The tests to determine the scoured content of pulled wool shall be made on not less than 500 lb. but need not be on more than 1000 lb. of wool in the grease.

24. (*a*) The wool shall be weighed in the original bags or bales at the time and place of making the tests. This shall be considered the gross weight.

(*b*) The weight of the coverings and bindings, known as the tare, shall be determined.

(*c*) The difference between the gross weight and the tare shall be the "normal net weight" of the grease wool.

25. The wool shall be scoured in a train of at least 4 bowls or in 3 bowls and a rinse box. The first 3 bowls shall contain the detergents and the last bowl or rinse box shall contain clean running water.

26. The wool shall be thoroughly dried in a heated mechanical dryer or on a heated table dryer and shall be bagged and weighed at once.

27. The net weight of the wool from the dryer, known as the "hot weight" of the scoured wool shall be determined.

28. The remainder of the test for determining the scoured content shall be made as described for wool in the fleece in accordance with Sections 10 to 19, inclusive.

IV. COLONIAL SCOURED

29. The test to determine the scoured content of colonial scoured wool shall be made as described for pulled wool in accordance with Sections 23 to 28, inclusive.

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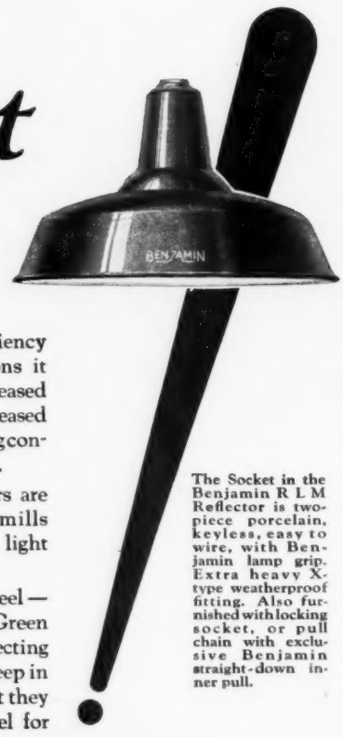

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NEW MACHINERY AND PROCESSES

Acetylene Generator

Portable Type Produces Gas at Low Pressure

A small generator for producing acetylene at low pressure for welding and cutting has recently been developed by the Oxweld Acetylene Co., 30 E. 42nd St., New York. This is well adapted to mill repair shops and supplements their larger generators, a great many of which are used to supply pipe lines in shops where much cutting and welding is done. The new generator, which takes 35 lbs. of carbide at one charge, can be transported readily from place to place, thus providing a portable supply of generated acetylene gas. Empty, the generator weighs only 210 lbs.

A new principle of feed control is used which might be called a "heavier-than-water" float. A vertical partition, extending nearly to the bottom into a water seal, divides the generator shell. One side is gas tight and contains the carbide hopper at the top. The upper part of the other side contains gas regulating and protective devices, and an automatic carbide feed control. Generation of the first acetylene causes water to rise on this side of the partition high enough to all but submerge a pan full of water, hung to a control lever. This pan normally acts as a weight acting counter to a spring, but as the water rises about it, its apparent weight is diminished and the carbide hopper valve is closed by the action of the spring. As acetylene is drawn off, water rises in the gas compartment and correspondingly lowers under the float, relieves some of the buoyancy under the water pan, which, gathering weight with the receding water, depresses the spring and allows a small amount of carbide to drop into the generator, and restore equilibrium conditions.

Because of its low center of gravity, the generator rights itself when tilted at an angle of 30 deg. It works perfectly at an inclination of upwards of 10 deg. No adverse effects result if a generator while in operation is knocked over. Nearly all fittings are enclosed in the cylindrical shell and there is little, if anything, projecting which may be injured by a fall on a concrete pavement. This generator has been submitted to the Underwriters Laboratories, Inc., and has been listed by them as an acceptable device for installation on insured premises.

Cleaning Machine

For Processing Raw Cotton or Waste

An improved cotton cleaning machine has been brought out by Haighs, Ltd., Oldham, England, which is known as the "Forkin Patent" double roller type. The cotton can be fed to the lattice by hand or direct from a hopper opener. From the lattice it is taken forward by feed rollers or dish feed arrangement. Here it is caught by a rapidly moving toothed roller from which it is combed off on to a second roller, ultimately being drawn off this second roller by the suction of an exhaust fan and thrown against a perforated cage. From the cage it can be taken off in a form similar to that of a scutcher lap, or it could be fed forward in fleecy form or by pneumatic trunks. The cotton which has been through this machine is said to be very well opened and the fibres are well separated. It is claimed that it has considerable possibilities not only for the preparatory treatment of the raw material but also for waste recovery.

Portable Crane

Telescoping Boom With Four Settings Between 12 and 17 Ft.

The latest improvement to the Elwell-Parker, Type CK, portable electric crane is the telescoping boom. Many users have found that an especially long boom is at times a hindrance rather than a help, while with a short one there are frequent calls for a lift beyond the boom range. To meet this situation a telescoping boom with four settings between 12 and 17 ft. is now offered. The boom is all steel and raised or lowered by a special set of cables operated from an electric motor driven hoist unit with two grooved drums. A feature of this boom is that the distance from top of boom to the hook is but 23 in. This has been accomplished by suitably locating the trip switch. The advantages of this design are apparent when handling in low head room. Crane controllers are new design. All the Elwell-Parker safety features are incorporated.

RECENT TEXTILE PATENTS

Cotton press. 1,541,288. F. A. Smith, Coleman, Texas.

Fabrics, Transfer of knitted. 1,541,547. L. N. D. Williams, Ogontz, Pa.

Guide and thread cleaner, Traverse. 1,541,721. D. Lewis, Scranton, Pa.

Hosiery. 1,541,008. L. Tlucka, Paterson, N. J.

Knitting machine. 1,540,845. C. C. Krieble, Norristown, Pa.

Lace transferring device. 1,540,952. J. L. Reid, Dublin, Ga.

Laminated material from spinnable textile woven fabrics and an adhesive binder, Manufacture of. 1,541,641. E. J. Guay, Swampscott, Mass.

Loom. 1,541,755. E. S. Stimpson, Hopedale, Mass.

Loom, Narrow ware. 1,541,265. E. R. Holmes, Worcester, Mass.

Looms, Let-off mechanism for. 1,541,303. J. Wilkinson, Fairhaven, Mass.

Looms, Picker connection for. 1,541,023. E. A. Barton, Philadelphia, Pa.

Looms, Warp stop mechanism for. 1,541,759. C. D. Brown, Hopedale, Mass.

Mercerizing machine. 1,541,365. D. M. McLintock, Paisley, Scotland.

Silk and the like, Apparatus for the production of artificial. 1,541,104. J. F. Briggs and W. Yorke, Spondon, England.

Sliver thickness, Machine for indicating variations in. 1,540,969. E. D. Walen, Gloucester, Mass., and A. H. Parsons, Watertown, Mass.

Stop motion. 1,541,548. T. and A. Wilson, Doagh, Ireland.

Thread guide for stop motions. 1,541,628. F. Crawford, New Brunswick, N. J.

Thread supply holder and guide, Bobbin. 1,541,562. M. Gilbert, T. Guida, and S. Katz, Brooklyn, N. Y.

Warping machine. 1,541,145. E. Hottinger-Scharer, Hombrechtikon, Switzerland.

Winding machine stop motions, Automatic starter for. 1,541,581. J. O. McKean, Westfield, Mass.

Winding machines, Yarn guide for. 1,541,569. L. T. Houghton, Worcester, Mass.

Yarn cleaner. 1,541,448. H. E. Van Ness, Elmira, N. Y.

Yarns after liquid treatment thereof, Apparatus for the drying of wound. 1,540,926. J., T. and J. Brandwood, Bury, England.

Business Literature

The Federal Electric Siren. The Federal Electric Co., Chicago, Ill.

A brochure illustrating various types of sirens made by this company is being distributed to the trade. Prices on various sizes and finishes are quoted with special adaptation of each type explained.

Link-Belt Gondola Car Dumper; Link-Belt Co., Chicago.

This is an eight page booklet which describes the operation and use of the Link-Belt "Gondola Car Dumper." This book is replete with photographs of installations and line drawings showing method of operation.

Superheat Engineering Data; The Superheater Co., New York and Chicago. 208 pages. Price $1.00.

This is the sixth revised edition of this valuable hand-book. The first five editions were entitled "Data Book for Engineers."

This handbook contains condensed data for steam power plant engineers and operators. A feature of the book is the index consisting of 16 pages, assuring ready reference. Superheated steam, its advantages over saturated steam, and the proper design and performance of superheaters, are briefly discussed. It illustrates superheater arrangements in practically all stationary, marine and locomotive type boilers commonly made in America. Waste heat, portable and separately fired superheaters are also shown. Brief comparative data are given as to sizes, tube sizes, arrangement of tubes, etc., for the stationary water tube boilers illustrated. The steam tables cover pressures from below atmospheric to 600 lb., absolute, and include properties of superheated steam from 50 to 300 deg. F. superheat.

The section on piping includes information for figuring piping for handling water, saturated and superheated steam, and velocity and pressure drop of water and steam flowing through piping. In this section is included also the proposed American standards for high pressures. Superheat Engineering Data also contains engineering data on coal and oil fired boilers, which include tables of heat values for gaseous, liquid and solid fuels. Other miscellaneous data include complete conversion tables and data on bolts and screw threads, with the recent work of the American Engineering Standards Committee, and the National Screw Thread Commission. There are also many miscellaneous tables frequently used by steam engineers.

Textile Mill Lubrication

(*Continued from page 77*)

sible, according to the type of machine and experience of the mill operator. For example, gears, enclosed chains, and cams can often be effectively oiled with a 300 to 400 viscosity oil, just as shaft bearings can be safely lubricated with light grease, especially where clearances are relatively great.

No chances should ever be taken with mechanisms in close proximity to the fabric. Here a filtered oil showing low evaporation, high adhesiveness, and a minimum tendency to spread is most suitable. The object, of course, is to protect the fabric as much as possible. Another point of importance is the matter of cleanliness of all such wearing parts. As oil or light grease continues in usage, it turns darker and darker, due to both oxidation and the accumulation of a certain amount of dirt and metallic particles. On contamination of a fabric with such foreign matter, the resultant oil stains will be much more evident and relatively impossible to remove completely. So it is advisable to rinse or wash the pertinent wearing parts of knitting frames with gasoline, kerosene, or such a cleaner as Oakite, at periodic intervals, according to the extent of dirt accumulations. The time spent will pay in the reduction of serious contamination of the fabrics.

Conclusion

To facilitate the matter of lubrication of silk mill, weaving and knitting machinery, the accompanying lubrication chart is included. The viscosity range (for oils) as the essential guiding characteristic is noted for the moving elements in question. Naturally, hard and fast specifications are relatively impracticable due to the

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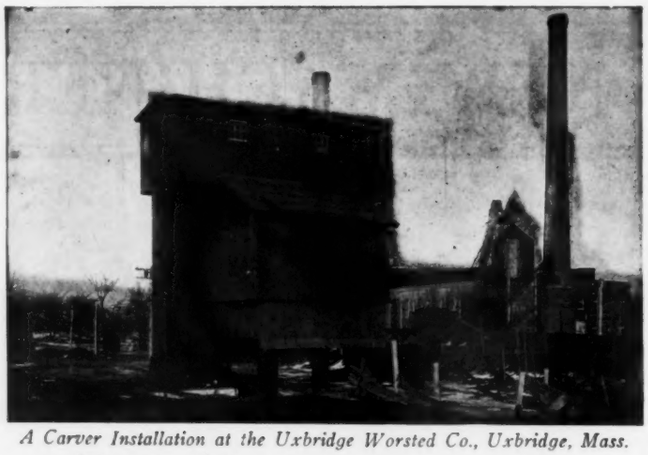

A Carver Installation at the Uxbridge Worsted Co., Uxbridge, Mass.

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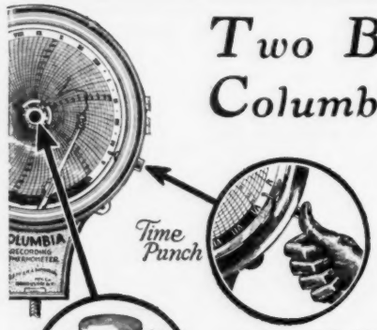

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With the non-removable chart button, a quarter turn draws in the little metal clips or fingers, shown in the illustration above, and off comes the chart. Another turn in the opposite direction pushes out the clips and they grip the new chart firmly. The utmost in convenience added to the utmost in efficiency. No more lost chart buttons. No more loss of time and temper removing and replacing charts. The patented non-removable button puts an end to the "button nuisance" for good and all.

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variation which will exist in regard to bearing clearances, pressures and the possibility of dripped or thrown lubricants. Good judgment and practical experience with the machinery at hand must be relied upon in determining whether deviation from these charts will be advisable. For average conditions they will be an aid in the matter of selection of lubricants for specific wearing parts.

For the lubrication of machinery not specified in the chart, in all probability the approximate recommendations for bearings, gears and chains, etc., will serve with perfect satisfaction. It must be borne in mind that the chart is by no means iron-bound in its limitations. Very probably certain authorities will prefer, with very good reason, to use oil where grease is noted, or vice versa. Others may consider our viscosity limitations as too exacting, or perhaps as too broad. However this may be, the lubricant characteristics specified will serve as a guide, and under ordinary conditions will meet operating requirements with satisfaction.

Reference to a 200 or 400 viscosity oil, as the case may be, means a product which will show 200 or 400 seconds viscosity on the Saybolt viscosimeter at 100 deg. F. This is the standard instrument for such tests in the United States today; 100 deg. F. being, in turn, the standard temperature for testing spindle and machine oils among most petroleum chemists. This matter of viscosity was discussed in detail in the first article of this series which appeared in the December 6, 1924, issue of TEXTILE WORLD.

Length on a Reel

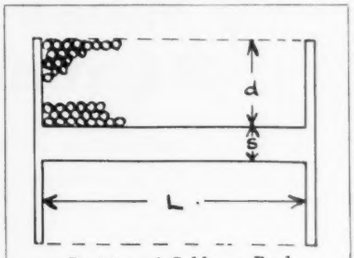
Simple Rule for Determining Number of Feet

By W. F. Schaphorst

Inasmuch as reels are so commonly used for storing round rope, cables, wire, hose, etc., and inasmuch as I have never seen a satisfactory formula for computing the length of these stored or wound up articles, I gave myself the task of devising a formula or rule. As a result I believe I have developed a simpler and better rule and a more accurate one than has been heretofore published.

When a rope, cable, or wire winds upon a shaft or reel, it naturally assumes a position such as I have endeavored to indicate in the accompanying sketch. That is, the rope when winding onto the first layer seeks the "valleys" between the turns of the first layer. In this way the maximum length of rope is wound onto the reel. This is particularly true if the rope is taut.

To determine the number of feet on a reel, four measurements are necessary, three of which are indicated on the sketch herewith and the fourth is the diameter of the rope, wire, or cable, in inches. The rule is as follows: To the depth of the rope or cable "d," as indicated in the sketch, add "s" the diameter of the shaft (all measurements in inches), multiply by the depth "d" in inches, then multiply by the inside length of the reel in inches, marked "L" in the sketch, then divide by the square of the diameter of the rope or cable in inches, and



Position of Cable on Reel

lastly, multiply by 0.3. The answer will be the length in feet.

This rule the writer believes to be the maximum of simplicity both as regards the number of dimensions or measurements to be made, and the mathematical work required to solve the problem.

Soot Blower Kinks

Rule for Determining the Amount of Steam Used

By W. F. Schaphorst

A point that is oftentimes overlooked by the average engineer is that when using mechanical soot blowers it is not necessary to turn the steam on so long on later passes of boilers as on the first passes. Much valuable steam can be saved by proportioning the amount of steam almost directly with the amount of heat absorbed by the tubes in the various passes. The first rows of tubes with which the gases and radiant heat come in contact do most of the heat absorbing, and therefore they should have more attention than the tubes in the last passes which do much less absorbing.

If it is impractical to clean the last passes more quickly than the first passes, because of the mechanical construction of the blower, it may be better to omit operating the blower in the last passes every time some blowing is done. It is better to confine ones efforts to cleaning the first passes. Thus the last passes may be blown once a day, or even once a week, depending upon the kind of fuel, the overload, etc. At the same time it might be well to clean the first pass twice a day or even more frequently.

An excellent rule for determining the amount of steam used by a soot blower is this: To the gauge pressure in lb. per sq. in. add 14.7; then multiply by the total area of all of the openings in the soot blower element in sq. in.; and lastly divide by 70. The result is the number of pounds of steam used per second. By applying this rule to the various elements installed on the boilers, it is a simple matter to determine the annual saving that can be effected as a result of timing operations and saving steam. Steam is becoming more and more valuable as time advances and we can no longer afford to waste it.

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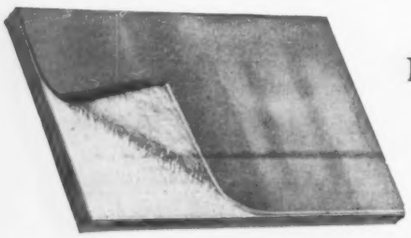

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TECHNICAL SECTION

Properties of the Wool Fibre

Facts Which Must be Understood Before the Action of Chemicals and the Effect of Processes Can be Made Clear—Why Felting Is a Special Property of Wool—Fleece and Pulled Wool—Depilatory Methods—Growth and Structure of Fibre—Systems of Grading

By Frederick Albert Hayes

THE wool fibre has many properties which, if constant, would make it ideal for the production of cloth. If this constancy existed, superintendents, chemists, foremen and technical men in general would necessarily transfer their activities to another industry, because the processes of wool manufacturing would be so simplified that common labor, working with suitable machines, would produce better results than are now possible.

Origin, precedent, handle and appearance all count, but the exact working qualities of wool are still a subject of conjecture and judgment on the part of the individual buyer. Part of the time the buyer is wrong, not because he is deceived by the merchant, but because wool often looks one way and acts another. It has many characteristics, however, which have been carefully determined and classified. While different wools show variation, their fundamental structure is analogous.

Possibly the most difficulty is caused mill executives by the variation in the degree of felting properties in apparently identical wools. The ability to felt makes wool the most extraordinary textile fibre of commerce. The wool on the sheep's back exhibits this tendency to some degree, but is largely prevented by the natural secretions of the skin. The wool scourer, however, is in hot water all or most of the time with the wool merchant because of this tendency to felt. As soon as the wool is reasonably clean and is presented an opportunity, such as is afforded in the scouring operation, it promptly starts to felt.

The wool merchant tears his hair, if he has any, reaches for the phone and caustically inquires what the scouring mill meant by pilling up the wool. While the scouring mill may be temporarily stumped for an alibi, they are resourceful and will weather the storm somehow.. However, it is a fair indication that the wool in question had good felting qualities. Note the "fair indication," because this same lot of wool may still cause the cloth-mill superintendent trouble if the goods do not full properly.

Properties of Wool

Wool has become one of the staple products of the world not only because it is useful as a fibre to spin and weave into cloth, but also because in addition to the properties possessed in common with such fibres as cotton, flax, and silk (such as suitable length and strength) it possesses the unique property of matting or felting.

Between the wool on the sheep's back and the finished cloth there are a multitude of processes, all of which have their effect on the fibre. Naturally the quality of the fibre in the finished article, as indicated by its luster, strength and handle, is poorer than in the original raw material, and it becomes important to ascertain if this can be avoided by more complete knowledge of the effect of the reagents and manufacturing processes on the fibre. It is of great importance to determine the action of the fibre of wool toward the many chemicals used in processing, such as the principal acids, alkalis, salts, soaps, oils and so on. These are used either singly or in combination in the several operations of scouring, carbonizing, dyeing, bleaching, finishing, etc.

Why wool felts is a controversial subject. Adequate explanation and discussion involve the use of terms which sound to the layman as mere technical jargon. The same is true of other matters related to wool manufacture. While necessarily making use of information contained in standard technical books, the writer aims to clarify terms which text books often assume are common knowledge. A complete series of articles, of which this is the first, is to cover the following subjects: (1) Properties of the Wool Fibre; (2) Chemical Nomenclature and Definitions; (3) Textile Soaps; (4) Chemicals used in the Textile Industry; (5) Chemistry and Physics of the Wool Fibre; (6) Wool Scouring and Carbonizing; (7) Dyeing and Finishing of Wool. None of these articles aspire to do more than correlate a fraction of the information already published, and, in addition, to supply the reader with a certain amount of knowledge gained by experience. The writer has had his original technical assurance somewhat tempered by experience as chemist, salesman and mill manager.—Author.

Minute Description Necessary

In order to thoroughly understand the effect of the various stages of manufacture on the wool fibre, it is obvious that a minute description must be made, not only of the structure of the fibre, but the effect on the structure of the various reagents, as well as the distortion caused by the mechanical work on it.

Again to emphasize the peculiar ability of wool to felt, it is particularly necessary that a study be made of the ultimate nature and composition of wool, which involves chemistry and physics. This carries with it a multitude of terms which in themselves mean nothing to the layman. However, by patience, in fact, less patience than some cross-word puzzles require, these terms can be made useful.

Many interesting fibres do not appear in commercial form because lacking some of the essentials necessary to convert fibre into cloth. While certain fundamentals must be met, others are not necessary, but enhance the appearance or serviceability of the finished product. Dependent on the source and kind of wool, variation in intensity of the individual properties occurs, which make it capable of producing an infinite variety of finished goods. The finest upholstery cloth for automobiles is protected from the springs of the seat by coarse, heavy hair felt. Each is serving its purpose and respectively represents the extreme of wool, wherein full advantage is taken of its widely varying qualities.

Fibre Requirements

To prepare cloth made by the usual weaving process, the fibre must be converted into a continuous yarn or thread. All yarn manufacture, irrespective of the fibre, is dependent on certain properties inherent in the fibre. To make a continuous yarn or thread, it is obvious that the individual fibres of almost infinitely smaller lengths than the resulting thread must be processed and in some way held together so that a strong, continuous thread may result. The requisite properties as stated by Matthews are as follows:

1. *Tensile Strength.* A fibre must possess in itself considerable strength, otherwise a suitable yarn cannot be made. The relative resistance of a fibre to use and wear is primarily due to its tensile strength.

2. *Length of Fibre.* There is a minimum limit of fibre length which cannot be reduced because of machinery limitations. This is approximately 5 mm. or ⅕ in. It is obvious that in general the longer the individual fibre employed, the greater the strength of the resulting thread.

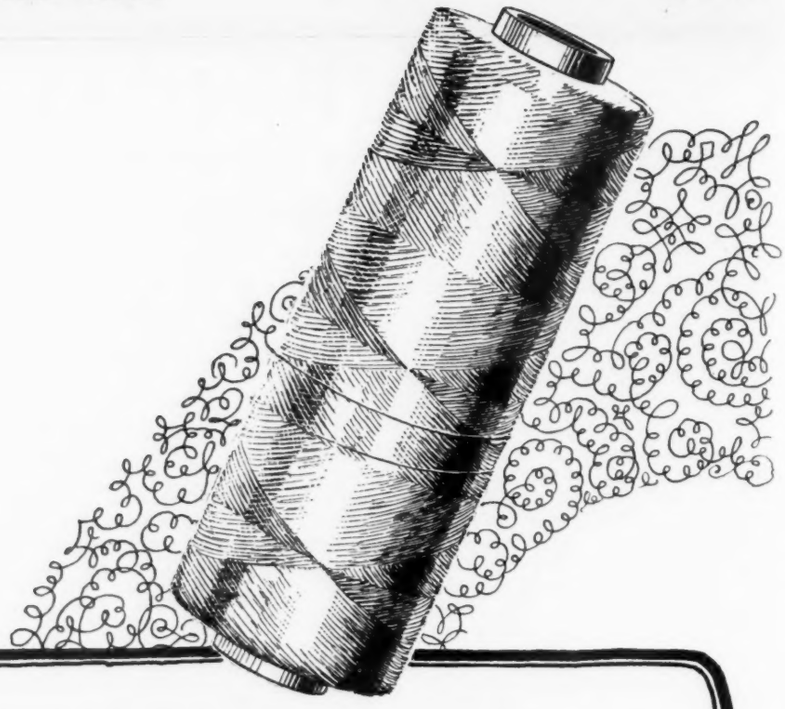
3. *Cohesiveness.* It will later be shown that wool has the greatest cohesiveness, because of its scaly structure as well as its curly nature. It is this property which enables individual fibres to hold on to one another when spun into yarn. Silk is smooth, and the strength of the yarn, particularly in a spun fabric, is chiefly due to the great length of a given fibre in proportion to its diameter, which allows the fibre elements of the yarn to wrap around one another a great number of times to produce sufficient frictional resistance to separation to make a strong yarn. Cotton is cohesive because of its ribbon-like, flattened form with numerous twists. That, combined with its length, produces strong yarn. Linen has a roughened surface, and throughout its length has knot-like formations which enhance the surface friction of the fibre.

4. *Pliability and Elasticity.* These are almost a function of the previous property, because a fibre must be pliable enough to allow its wrapping around the other individual fibres which comprise a yarn. As an extreme example, a fibre of glass, which may be prepared in an extremely fine state, can be made up into a fabric which has relatively no pliability and elasticity as compared with a fabric made from wool of similar fineness. In other words, the pliability determines to a great measure the elasticity and resiliency of the finished product.

5. *Fineness of Staple.* This property is variable for the different wools, and is regarded of sufficient importance to be used as a basis for grading. Fine fabrics will require fine wool. While it is the objective of many types of manufacture to include cotton and other fibres in the goods so that the final result approximates that of wool, it requires the use of wool substitutes of like fineness.

6. *Uniformity of Staple.* This highly important property determines the uniformity of the yarns produced. There are special machines used in worsted manufacture to get this result.

7. *Porosity: Capillarity.* By this is



Salesmanship

The Consensus of opinion of Woolen and Worsted Manufacturers

"No matter how good the woolen and worsted cloth may be, it must have the very best silk decorations to make it a seller."

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meant that the fibre should be capable of easily absorbing liquids and of having its entire substance thoroughly permeated by the solutions presented to it. This may be put in another way by referring to the avidity of the wool fibre for liquids. Chemicals and mechanical action affect various qualities of the fibre and therefore different results are secured in dyeing, bleaching, etc.

Other Properties

8. *Luster.* While luster does not affect the usefulness of a fabric, it is a prime factor in the ornamental features of the finished goods.

9. *Durability.* There may be some in this world today to whom the necessity of durability is not an essential, but judging from the results of the last few years, it is apparent that by far the majority are making clothes last a long time. A fibre to be commercially practical, therefore, must possess a degree of durability which makes for a reasonable permanence in the finished goods.

10. *Commercial Availability.* A fibre to be of economic significance must be available in sufficient quantity to insure a more or less constant supply combined with a price which is not prohibitive. The usual example of a non-commercial animal fibre is spider silk. This is used to support some minute parts in certain electrical instruments. The workers tie knots in a fibre which they cannot even see. Those who in the early morning have seen a spider's web delicately delineated by the morning dew will appreciate the beauty of a fabric if it could be prepared from such an article. We do not like to contemplate the result of a spider farm, and apparently others have the same idea of the difficulties of its production. It is not probable that it will ever become a staple article of commerce.

In addition to having all of the above properties to a greater or less extent, wool has the peculiar property of felting, as already stated. The question of why wool felts has been in the past and still is a controversial subject, but its physical structure bears a very important relation to that ability. Wool is admirably constructed to withstand the strains to which it is subjected by the mechanical manufacturing processes.

Source of Wool

As yet no definition has been given of wool. It is a variety of hair growing on sheep, goats, etc., and usually has special reference to the product obtained from different varieties of sheep. At what point an animal fibre ceases to be a hair and becomes wool is impossible to determine, because one merges into the other. The wool-bearing animals all chew their cud, or ruminate, although the direct bearing of this fact on the ability of wool to felt is not evident. The principal members of this order are sheep, goats and camels. The sheep belong to the class Ovidae. Naturalists divide sheep into three classes.

a. Ovis aries or domestic sheep, cultivated in all countries.

b. Ovis musmon, native in European and African countries bordering the Mediterranean Sea.

c. Ovis ammon which includes the wild or mountain sheep found in Asia and America.

A commercial division is as follows:

1. Short, fine, pure wool sheep, such as merino or Southdown.

2. Medium staple and cross bred sheep, such as those from which the fine Australian combing wools are obtained.

3. Long wooled, bright haired sheep, such as Leicester and Lincoln breeds.

Wool comes from sheep; cashmere from the thibet goat; mohair from the angora goat; and alpaca from the llama goat. These can be spun, but fur, although a fine hair, is not adapted to spinning. In the original wild condition, most animals have two skin coverings, one composed of long, straight, stiff hairs known as the beard hair, at the roots of which grow much finer, softer and more numerous fibres called the down hairs or wool. The beard hair and down hair together form the fleece. The down hair is thin, usually white, soft and curly, while the longer beard hairs are darker and stiff with sharp points. By cultivation and selective breeding, the longer beard hairs have been in many cases entirely eliminated and the growth of wool correspondingly developed. There are other types of hairs which come from a sheep, but do not form an important part of the fleece. These are called bristle hairs, which are short and pointed, occurring on the head and end of the limbs.

Fleece Wool

The bulk of wool comes into commerce in the form of fleece wool, the product of a single year's growth, and is cut from the body of the living animal. The first clip, at about eight months, is called lamb's wool. When not shorn until twelve or fourteen months, the wool is known as hog or hogget, and, like lamb's wool, is fine and tapers to a point. All subsequent cut fleeces are known as wether wool. Fleece wool as it comes into the market is in the grease, that is, unwashed.

Nature has admirably provided a sheep to withstand the natural hardships of the weather. This is perfectly illustrated by the change which appears in the character of the fleece dependent on the climate. The first sheep introduced into Australia came from India and were a very poor variety. In fact, they resembled a goat more than a sheep, but under the influence of that country's climate and pastures, in the course of a few years a wool of a very respectable quality was produced.

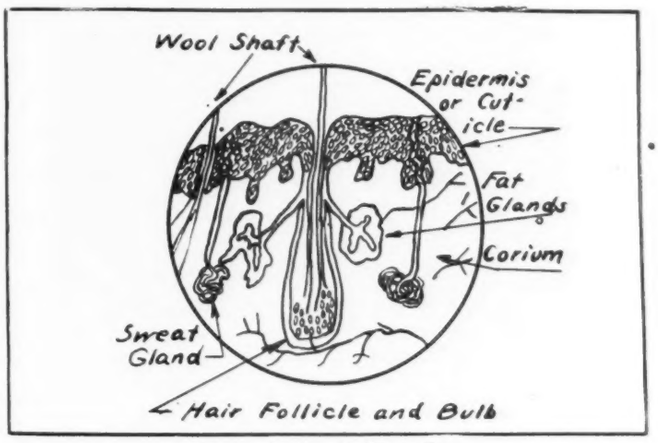

Fig. 1. Section of Sheep Skin

Pulled Wool

The fine wools seem to carry a great deal more grease than the coarse wools. The grease and oil is the natural secretion of the skin and may be present to the extent of 60% of the original weight of the sheared wool. While the large part of wool comes into the market in the form of a fleece clipped or sheared from the living animal, there is another type known as skin wool, which is that removed from the skin of the slaughtered animal by sweating.

A slipe wool is secured by pulling the wool from the skin after treating with a depilatory. These wools are known as pulled wools and form an important part of the total wools consumed. They constantly assume greater importance as the mutton trade increases. Incidentally, the mutton trade is making inroads in increasing proportion on the fine wool trade. A large sheep suitable for the packing houses does not produce the finest wool, and therefore the world's supply of fine wools at the present moment seems to be decreasing.

Fleece wool, coming from a living animal, has different qualities than the same grade of wool pulled from the skin for two reasons:

1. The fleece represents a live wool, while the pulled wool is from a dead animal.

2. The depilatory process itself changes the original structure so that its felting and dyeing properties are destroyed to a certain extent.

Sheep skins sent to a pullery may be preserved by several methods, the most common being merely to salt the skin. Indian skins are actually baked in the tropical sun and have the pliability and elasticity of reinforced concrete. The first process is to reduce the skin as nearly as possible to a state similar to that in which it is removed from the newly killed animal. This is accomplished by soaking in vats of water or by throwing in water agitated by paddles. Dependent on the season and temperature of the water, soaking may last from one to three days, after which the skins are ready for the depilatory process. In some instances, the wool is scoured at this point on the skin, but in any case the preliminary soaking has removed a great deal of the natural impurities of the wool together with the entangled dirt.

Sweating Process

Dependent on the relative value of the skin and wool, the skin is subjected to a sweating or sulphide process. If the wool is of more value than the skin, the usual procedure is to sweat the skin. This is preceded by painting the back with an arsenical composition to prevent a too ready decomposition of the skins themselves. The skins are then hung up in dark cellars; and, through a period of a few days, a bacterial action takes place, which loosens the wool so that it may be readily pulled off the skin.

This process is fraught with great danger to the skin. Men with experience of many years are required to judge at what point the work is complete. There is no certain time it is safe to say such work will take. In the summer time during a period of high temperature and humidity, a sudden thunder storm may ruin the entire lot of skins. Quantities of ammonia are developed by the bacterial action, and the whole operation is one which is far from pleasant.

The lime sulphide method in its modern form is to paint the flesh side of the skins with a thick mixture of slaked lime and sodium sulphide and water. The skins are folded and piled over night. The result is similar to the sweating, except that a different part of the hair is attacked, and if the process is continued too long, the hair itself is destroyed.

Development of Fibre

The final result of both sweating and the sulphide method is to allow the wool to be easily slipped off the skin. It is apparent, however, that the chemicals used must have some effect on the wool. Fig. 1 shows the development of wool in a sheep skin, and will be used later in discussing the difficulty of dyeing and felting pulled wools.

The root of the fibre is enclosed in a small bag or sack formed by a convolution in the skin, termed the hair follicle. The hair follicle is a gland which secretes a liquid from which the hair is gradually developed by the process of growth. The hair bulb is composed of round cells which modify rapidly and, pressing upward through the hair sheath, become hardened, thus increasing the length of the hair.

The skin from which the hair or

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wool protrudes is not merely a covering for the animal, but at the same time possesses organs of sense and also produces certain important secretions. It consists of two principal layers, the epidermis, otherwise known as the epithelium or cuticle, and the corium, derma, cutis or true skin. The epidermis is very thin, compared with the true skin which it covers, and contains the hair as well as the sweat and fat glands. Near the opening of the hair sheath upon the surface of the skin, the ducts of the sebaceous or fat glands pass into the sheath and secrete a sort of oil to lubricate the hair.

Adjacent to the hair sheaths are shown the sweat glands, consisting of convoluted tubes lined with a layer of

Fig. 2. Diagrammatic Structure of Wool Fibre; (M) Medulla or Marrow; (E) Epidermis or Scales; (C) Cortical Cells

cells which secrete perspiration. It may be well at this time to note that the epidermal layer produces not only hair but other structures of a horny character, such as horn, claws and nails, which are chemically and anatomically analogous to exaggerated hairs. The porcupine quill is merely an exaggerated hair.

The corium is of no particular interest to the wool man, but it forms the basis of the leather industry because it is this part of the skin which makes leather, the epithelium being usually removed by the preliminary process.

Wool Grading

It is surprising that more disagreements do not occur because of the method of wool grading. Roughly speaking, there are two systems, one denoting grades by a system of bloods such as full blood, ½ blood, etc., its origin being in the breeding of the sheep. As a matter of fact, they have now become terms denoting a certain degree of fineness. The other system of grading wools is by a number referred to as counts spun, meaning the number of hanks obtained of 560 yds. each to a pound of yarn. Domestic and foreign wools are usually graded by bloods, while United States territory wools are graded by a slight modification of the same system. Pulled wools are roughly graded into four classes. Table 1 shows a comparison of the terms used.

The Department of Agriculture is now making a study of standards of wool, but not much progress has yet been made in having the wool trade adopt new standards in a commercial way. The individual judgment of the

TABLE 1.

U. S. Domestic	U. S. Territory	Pulled	U.S. Counts Spun	Foreign Counts
Full Blood (XX)	Fine	AA	60s	66-74s
3/4 " (X)	3/4		50s	60-66s
1/2 "	1/2	A	40s	54-60s
3/8 "	3/8	B	36s	48-54s
1/4 "	1/4	B	32s	44-48s
Low 1/4	Low 1/4	C	20s	40-44s
Common	Common	C	16s	36-40s
Braid	Braid	C	12s	32-36s

men handling the wool in sorting and in buying and selling enters very largely into the classification into which a given wool may be put. Thus, one wool presented to three competent men may be called ⅜ blood, ⅜ blood containing a little ¼ blood, and good ¼ blood. If the same wool were made into yarn and one skein oiled and another left untreated, it is very probable that the usual wool buyer would regard the oiled sample as finer than the other.

Some study has been made on the diameter of wools as measured by microscopic study for a basis of fineness. One published table on which a good deal of careful work has been done shows a classification as follows:

Fine	20 microns
½ blood	22½ microns
⅜ blood	29 microns
¼ blood	33 microns
Low ¼	35 microns

A micron is .001 of a millimeter. Converting this figure to linear measure gives .00004 in. A further classification used in the United States is shown in Table 2.

Physical Aspect of Fibre

To the unaided eye, wool appears to be a wavy shaft from ½ in. to 6 in. long, and varying in diameter. The previous paragraph showed the average diameter of various grades of wool. In pulled wool, the root is obvious, and in the first clip it is apparent the shaft tapers to a point. Recourse must be made to the microscope to exhibit the marvelous structure which gives wool its unique qualities. Under the microscope, properly prepared specimens of a wool fibre will exhibit three fundamental structures:

1. An outer layer, known as the epidermis, which gives wool the characteristic scaly appearance.
2. An underlying, fibrous, cellular substance, called the cortical layer, which constitutes the bulk of the wool fibre.
3. A cellular marrow known as the pith, or technically called the medulla.

A variation in the detail of the above fundamentals to a large extent explains the difference in characteristics exhibited by wools. Each one has its own specific purpose and it is therefore in order to make a detailed study of their minute construction.

1. *Epidermis.* The epidermal layer of scales imparts luster to the fibre. As seen under the microscope, they seem to be a scale-like formation, like that on the body of a fish. The scales consist of flattened cells, the ends of which generally overlap each other and always project outwards, and cause the edge of the fibre to produce a serrated appearance. The edge is always toward the root.

In a Merino wool these scales form a cylindrical cusp completely surrounding the fibre and somewhat overlapping each other. In coarser wools there are two or more scales occurring in the circumference of a fibre. Thus in a fine wool the edges of the scales are slim and straight, while in the coarser wools the scales are serrated. Usually such scales are broader than long, and are very thin. The length of the free or projecting edge of the scales is also a varying factor which has a highly important bearing on the felting properties of the fibre. The more continuous the surface, due to the closeness of the scales, the higher is the luster. In general it may be said that the finer the wool, the greater the number of scales per inch.

Fig. 3. Microphotographs of Fine Cape Clothing Wool. Fibre Shown at Left Has Been Scoured. Fibre at Right is "In the Grease"

Referring to Fig. 2, the epidermal scales are shown under E. There are also to be found various microphotographs or drawings from the microscopic studies of various types of wools which also show scales under lower magnification. (See Fig. 3.)

Cortical Layer

2. *Cortical Layer.* This is the true fibrous portion and forms the major constituent of wool. Under the microscope the cortical layer can be seen through the translucent epidermal scales. It consists of minute elongated cells from .0014 to .0015 in. in length and .0005 to .0006 in. in diameter. In fine wools the cells exhibit unevenness in growth and arrangement, with the result that the wool is contracted on one side or the other, giving rise to the wavy appearance of the wool. Coarse wools exhibit such waviness to only a slight degree, and some fine staple wools present short and very regular waves. Fineness of the wool fibre appears to bear a definite relation to its waviness, and attempts have been made to grade the fibre according to the number of waves per unit of length.

The waviness of wool fibre may be temporarily removed by wetting with hot water and drying in a stretched position, but the tendency to return to its original position has a bearing on its felting qualities as well as its spinning qualities. In general, the

(*Continued on page* 105)

TABLE 2.

Australian

70's Super
64/70's Super Warp
64/70's Good Average
64's Combing
60/64's Combing
60's Combing
58/60's Combing
56's Combing

Australian Lambs

Fine
1/2 Blood
3/8 "

New Zealand

58's Super
56's "
50's "
48's "
46's "
44's "
40's "

Capes

Fine
Medium
Low
Grey
Kempy

South American

Fine
Medium
Low

Puntas

Fine
Medium
Low

Domestic

Fine Strictly Combing
Fine French Combing
Fine Clothing
1/2 Blood Strictly Combing
1/2 Blood Clothing
3/8 Blood strictly Combing
3/8 Blood Clothing
1/4 Blood strictly Combing
1/4 Blood Combing
Low 1/4 Blood
Strictly Combing
Common and Braid

California

Fine
Medium
Low

Ohio

Delaine
1/2 Blood

Texas

Fine
1/2 Blood

Chilean

No. 1
No. 2

Territory

Fine
1/2 Blood
3/8 "
1/4 "

Montevedio

1's
2's
3's
4's
5's

Montevedio Continued

1's-2's 50/60's Lambs
1's-2's 50/60's Second Clip

Buenos Aires

3's - 46/48's
4's - 44/40's
5's - 40/36's

Pulled Wools

AA
Fine A
A Super
B (High)
B Super
½ Average
B Grey
C Super
C Coarse
AA Combing
A "
B (High) Combing
B "
C " "
Coarse "

Mohair

First Kid
Second Kid
Fine
Medium
Coarse
Stained
Burry

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If the question is not of general interest to textile readers and involves expensive investigation, a charge covering the cost may be made, of which the inquirer will be advised before any expense is incurred.

Letters expressing opinions or voicing criticism will be signed by the correspondent's name unless the letter itself contains a request that the name be withheld.—EDITOR.

Dyeing Tussah Silk

Technical Editor:

Would be pleased if you would give me information as regards the dyeing of tussah silk (in the raw stock) so it will stand 2 to 3 hours' fulling. I have dyed the tussah with union colors, and after-treated with chrome and formaldehyde; also dyed it with chrome colors, following the regular top chrome and bottom chrome method. Of the three ways I have tried, the first method is the most satisfactory, but is not wholly so. There are certain shades that I have dyed on wool using the top chrome process. These shades stood fulling very well. The same shades on tussah, dyed with the same colors and by the same method, did not stand fulling. The tussah is to be used for a striping effect in piece dyes. The pieces are union dyed. (5453)

Tussah silk dyed with direct cotton colors which can be after-treated with chrome, formaldehyde, and acetic acid, should stand two to three hours' fulling. In order to exhaust the dye bath and to have the dyes firmly deposited on the fibre, it is best to add 5% to 10% (depending upon the shade) of acetic acid to the bath after the dyeings have been run for 20 to 30 minutes.

If very bright shades are desired, basic colors, after-treated with tannic acid and tartar emetic, are satisfactory to use, if the fastness to light is not important. For blacks, a developed black gives the finest shade, being faster to fulling against white silk or cotton, and also faster to cross-dyeing.

An expert dyer replies to this question as follows: For violet any top chrome violet treated with formaldehyde and chrome should stand up all right. I advise that your stripe colors be as bright as possible, and when cross dyeing these colors, boil as little as possible.

After treating your tussah silk (raw stock) with chrome and formaldehyde, wash the same off with 1% acetic acid 140 deg. F. for 15 to 20 minutes. Don't wash after this. If your silk is not thoroughly degummed, use a little monopole oil. Be sure and treat all your diamine colors with chrome and formaldehyde.

* * *

Blending Garnetted Silk or Rayon With Wool

Technical Editor:

Could you give me some information regarding the working of garnetted artificial silk or real silk? Which works the better in a blend with wool, and why? I would also ask you whether the wool emulsion used has any effect on the working of same, and how it acts in carding, spinning and finishing. We are contemplating making some cotton warp bolivias, with a wool filling, blend of wool and garnetted silk, but are at a loss as to how same would work. We also would like to use a small percentage in our top-coating. (5451)

The art of successfully working artificial silk lies in the proper blending with a stock suitable to its nature. As a rule, the artificial silk is too coarse or long for the stock with which it is desired to combine it. This results in a general disruption of the blend to the extent that it will not card or spin satisfactorily. Artificial silk, being a manufactured fibre, does not possess the submissive nature and good carrying qualities found in the natural silk stock. However, owing to the smoothness of the fibre, it is used in connection with other stock more for decoration and novelty purposes, than for the blending qualities.

Natural silk garnet stock has splendid blending and carrying qualities, when used in connection with other stock. The one bad feature is the liability of using silk which is undesirable for use in goods of high quality. We would not advise the use of a very heavy emulsion in connection with the artificial silk, and it should not come in direct contact with the silk in any case. The wool stock should be oiled separately and run through the mixing picker. Then add the silk to the wool on the second run through.

* * *

Equalizing Atmospheric Conditions

Technical Editor:

In certain departments of our mill the rooms are overheated and the air loaded with moisture, while in others it is too dry for the processes carried on within them. Is there any way of equalizing conditions as to temperature and humidity without complicated equipment? (5450)

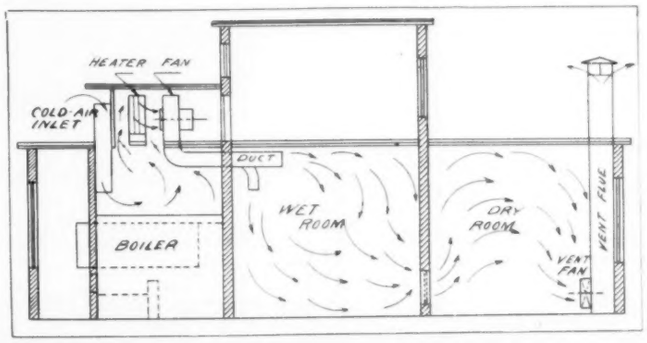
Whether or not this can be done to advantage depends a good deal upon the relative locations of the wet and dry sections of the building. If adjacent, or nearly so, it is often a simple matter to equalize atmospheric conditions to the advantage of both by means of fans and ducts for producing the exchange. A scheme for this purpose which was successfully carried out in a flax spinning mill is shown diagrammatically in the accompanying drawing. In this case, the relative locations of boiler room, wet spinning room and dry spinning room were such as to lend themselves admirably to the arrangement shown. Complaint was made of excessive heat in the boiler room, fogginess and dripping in the wet spinning room, and excessive dryness in the dry spinning room, which seriously interfered with the various processes carried on there.

The situation was treated as a whole by placing a heater and fan upon the roof of the boiler house and carrying up the wall over the boiler fronts to the ceiling so as to form an enclosed chamber including the heavy piping. Openings were made in the roof so that, when the fan was in motion, cold air would be drawn in and delivered near the boiler tops by means of a flue carried downward as shown. Warm air is drawn off from the upper part of the chamber, and that delivered to the fan maintained at a uniform temperature of 70 deg. by means of a thermostatically operated mixing damper which sends such proportions of the air through and around the heater as may be necessary to maintain this temperature. The introduction of a large volume of dry, warm air to the wet spinning room absorbs the moisture, clears the air of fog, and prevents dripping upon the employes and machinery.

The plenum, or slight air pressure produced by the fan, forces the warm moist air into the dry room through openings near the floor, from which it rises and is diffused throughout the room, being finally drawn off by means of an exhaust or vent fan, as shown.

For a large and rapid air movement, sufficient to absorb all of the steam in the wet room, the duct arrangement shown in the drawing is desirable. If a smaller quantity of air is supplied, so that some steam still remains in the room, it will be better to admit the air near the floor and draw it off at the ceiling, or the reverse of that shown in the drawing. With this arrangement, the air will be kept clear in the lower part of the wet room, and any steam present will be kept near the ceiling, where it will not interfere with the vision of the employes. Warm, moist air admitted in moderate quantities to the upper part of the dry room spreads out near the ceiling, and becoming somewhat cooled, slowly falls to the floor and is carried off by the vent fan as shown in the drawing.

The volume of air required will vary with the quantity of moisture to be removed from the wet room. In the case mentioned, it was made equivalent to an entire change every four or five minutes. It is rather unusual for all three of these rooms to be located adjoining one another as in the case described, but if not too far apart they can easily be connected by means of ducts.



Ventilation System for Equalizing Conditions

* * *

Streaks on Silk Hose

Technical Editor:

We are enclosing a sock which you will note shows streaks of what appears to be grease, and it seems impossible for us to get this out in boiling. We are very anxious to know what it is, and ask if you can suggest a way to eliminate it. This streak does not appear in all the goods, but in every batch we get out we find several of them like the sample enclosed. This sock is, as you will note, knit of silk on the outside with artificial on the inside. Do these streaks come from the knitting or the dyeing? (5449)

The plaiting on the sample is indeed very bad and is responsible for some of the shady appearance of the hose. We would advise a thorough examination of your needles to ascertain that none are sprung. Some of the fault is due to an improper boiling-out before dyeing. With improper soaps and oils, hard water will precipitate the oil or gum emulsion onto the hose causing spots which will show up badly when the hose are boarded. It is also noted that the pure silk is a trifle tinted in places.

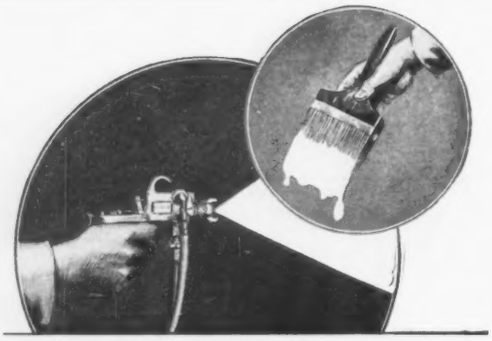
* * *

Worsted Yarn Kinky

Technical Editor:

I am enclosing a sample of top and a small sample of yarn. Will you please tell me the cause of the yarn being "pebbly" or "curly?" Drawing ratch is 9¾ in., spinning 9½ in., with a draft of 6 to 8 in the drawing, and a draft of 10 in the spinning. (5452)

A close examination of the yarn shows it to be decidedly "kinky." The particulars given as to drawing and spinning are too meagre to help out very much in defining your trouble and suggesting the remedy. However, we are of the opinion that an average draft of 8 in. in the drawing would be better than 6 in., which is too short for this class of wool in any of the drawing operations. Your ratch of 9¾ in. is all right for the first operations after the gill boxes, but should be gradually reduced to 8 in. in the finishing operations. Let your ratch on the spinning frames be not less than 8¼ in. A trifle longer might be better, so as not to break any of the fibres in the spinning operation. You would also



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When your painting is done with the DeVilbiss Spray-painting System it is done 5 times faster than hand-brushing—thereby reducing labor costs 80%. Besides effecting this big reduction in labor cost, the sprayed coating covers every bit of surface thoroughly and uniformly, without drips and spatters.

We should like to mail you further facts on the economies and advantages of painting the DeVilbiss way.

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CASWELL PAINTING SERVICE

The photograph shows a section of No. 4 Farr Alpaca Company's cotton mill, Holyoke, Mass. This is the largest cotton mill erected in the U. S. during 1923, and is painted throughout by Caswell.

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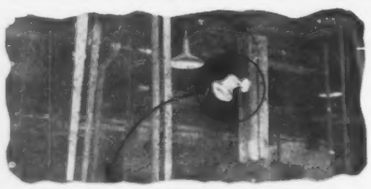

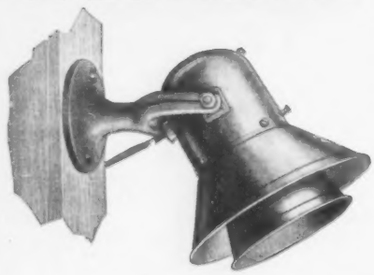

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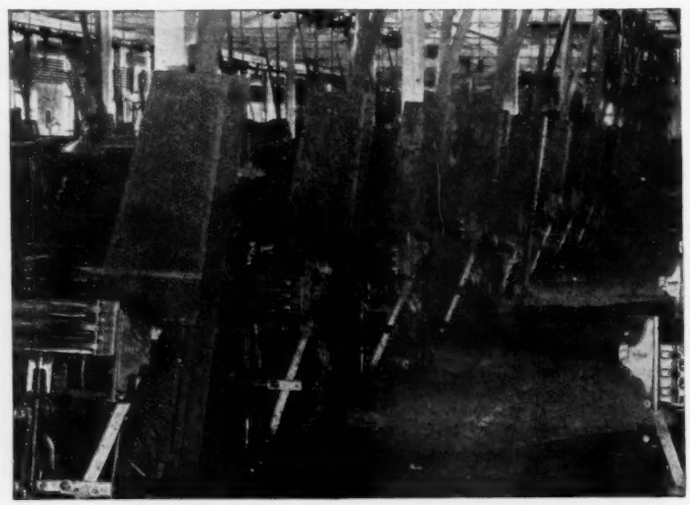


Designers and Manufacturers of

Industrial Safe Guards

For the Textile Industry

Correspondence with Readers—Continued

obtain a better yarn and a better spin if you made the rovings 20% lighter in weight. The yarn shows evidence of this.

The writer is also inclined to the opinion that excessive twist is being put into the yarn in the single, which may be the cause of some of your trouble when the two threads are being twisted together. We would also suggest that you test your spinning frames for speed. Yarn is more uniform if the spindles are all running at the same R. P. M. If driving belts are unduly slack, there may be a variation of 500 R. P. M. or a loss of speed of say 10%. What the writer has in mind is this: that the twisting together of a thread spun at 5500 R. P. M., and another thread spun at 5000 R. P. M. might cause some of the trouble you are experiencing. There are many factors which enter into a case of this kind, and without knowing the actual conditions under which the yarn is made, we can only generalize as to the actual cause of your trouble.

* * *

Jig Dyeing

Technical Editor:

The writer has read with interest the article entitled, "Concentration of Dye-baths," in your issue of June 13, 1925. It should assist dyers to make their practices more uniform. The article states, "that in jig dyeing, however, conditions differ somewhat from yarn and warp dyeing. One frequently reads in recipes that a given dyeing is to be made in a 'short' bath, without indicating just how 'short' the bath should be." This is very true, yet I fail to see where the article gives any information as to the ratio of water to the goods in jig dyeing.

I am writing this in the hope that out of some of my experiences I may be able to offer some information that will be pertinent and help the jig dyer to know just what a "short" bath is. For example, take sulphur blacks. I have a jig that takes 54 in. cotton goods and use a standard roll to be dyed of 320 lbs. I fill the jig until there is 645 lbs. of water. (I have all our jigs calibrated so that I can tell how many pounds of water I have for each quarter of an inch in depth.) This you will see is very close to 2 to 1 ratio. There is scarcely any trouble from uneven or bronzy goods. I will admit that it is possible to have too much dye and chemicals present in the bath to cause uneven or bronzy goods, yet I do not think that this is the cause of five per cent of the trouble. I find that far greater trouble comes from the following:

1. Uneven tension on the friction bands.
2. Rolls out of true (jig rolls).
3. Rolls out of line (jig rolls).
4. Uneven wind up of cloth on the shells, especially in the first two runs.

With sulphur browns I use the same ratio of 2 to 1, but with sulphur browns I use less salt to exhaust the bath. When I use a standing bath on sulphur colors I use the same 2 to 1 ratio, but keep the bath at a concentration of 4 deg. Tw. at a boil.

In dyeing with direct cotton in a jig I use a concentration of 1¾ to 1, except formulas using more than ¾% of Benzopurpurine 4B and colors that are not extremely soluble. With these colors use 3 to 1 ratio.

I trust that the information herein contained will help some jig dyer.

H. C. R.

Uneven Cotton Yarn

Technical Editor:

I am taking the liberty of mailing you small cones of the following numbers of yarn: 12/1, 16/1, 18/1 hosiery. If it is not asking too much will you kindly have some of your experts look at this yarn and tell me the defects, if any. This yarn is made of Carolina cotton, seven-eighths to an inch. We have had some minor complaints on these numbers and wish to know if you can make any suggestion to improve them. (5448)

The unevennesses in these yarns are apparent from a sample of knit goods made from them. They are so frequent that it seems as though it would be well to make a careful study of the conditions in the spinning room of this mill to see if the work cannot be improved. We would recommend a thorough examination of the spinning in the mill by some competent person as a means to determining the source of these unevennesses, as it cannot be done at a distance.

* * *

Open Clock on Circular Machine

Technical Editor:

Is there any machine or method for making an open clock similar to that which is made on a full-fashioned machine? I would like to make an open clock on a circular machine. Is there any machine or attachment that will do that? If there is please give me the make of machine. I trust that I have made my meaning quite clear. (5441)

To our knowledge, there is no circular machine for making the lace work made on the full-fashioned machine. The lace work is made by using extra attachments which remove loops from desired needles and place them on adjacent needles after the general style of narrowing. On the next course, this empty needle picks up a stitch but leaves a hole when so doing.

The nearest approach to this open lace work is the tuck stitch lace work made on the circular machine. This really does not give open work, but it does give a pattern somewhat similar. We believe machines for this type of work may be had from any of the usual machine builders.

* * *

Cockles in Wool Goods

Technical Editor:

We are forwarding an end of cloth with a heavy cockle across the piece. We have tried various remedies such as checking take-up and let-off motions and yarns, but this does not seem to help us out of the difficulty. We are at a loss to know what causes this particular defect, and would appreciate your advice as soon as possible. (5434)

Cockles may be due to an irregular "take-up" and "let-off," a variation in the number of picks, or in the size, weight and twist of the filling, an irregular mixture of the stock, or an insufficient strength of the fulling soap or its irregular application in the fulling process. While it is often difficult to locate the origin of this trouble, it is an easy matter to determine whether the fault is in the finishing or elsewhere, by a careful examination of the cloth as it comes from the washers.

The heavy cockle, as seen in the sample submitted, shows a uniformity all the way across the cloth, with an abrupt change from wide to narrow, equally marked, and distinct in the middle and at the sides of the cloth. The extent of the cockle thus plainly disclosed represents about what might be made by one bobbin of filling.

Cockles resulting from any fault in the soap or its application will always present an irregular variation, and never occur straight across the cloth, as in the sample; usually showing more pronounced in the middle of the cloth and less pronounced at or near the selvages. It is impossible to conceive that any defect of the kind could show in a distinct and uniform line across the cloth, if produced in the fulling.

Cockles caused by a defect in the "take-up" or "let-off" appear equally distinct all the way across the cloth, but the change from wide to narrow is not so abrupt; it appears more gradual, marked by no definite line. In the sample submitted there does not appear to be any variation in the picks; and the filling yarn seems to be reasonably regular.

These conclusions narrow our investigation down to the possible difference between the filling of the wide portion of the cloth and that one bobbin of filling contained in the "heavy cockle across the piece." By removing some of the filling threads from each of these parts, and untwisting them, thus restoring them to the carded condition, we find the mixture is composed mainly of two kinds of stock; one possessing a fairly good felting quality, and a shorter kind quite deficient in this particular. That taken from the narrow or cockled portion of the cloth seems to contain more of the longer fibres, which probably accounts for the difference in the fulling of the two portions.

With this combination of stock, so different in length and fulling quality, it requires but little variation to result in trouble in the finishing. Such a combination needs to be very carefully blended and intelligently handled in the picking, carding and spinning. It goes without saying that the laying down of the stock for mixing is very important, but the tendency to separation after this is done is often overlooked. The feeds of the cards should be kept well filled, to insure a uniform portion of both long and short fibres being delivered to the machines. It is advisable to keep the top and bottom spools from the finisher card separate, as the rings of the top doffer tend to draw from the cylinder a larger portion of the longer fibres.

The roping from the top and bottom doffers, being spun and delivered to the looms separately, tends to the best results. The keeping of different lots as carded entirely separate in the weaving is also desirable. The writer has had serious trouble with cockles, and by exercising care at every point where a tendency to the trouble appeared, succeeded in overcoming it.

In addition to the suggestions noted, we reduced the size of the picker blow-room, thereby rendering it impossible for the long and short stocks to become so widely separated. One of the most effective precautions adopted, however, was what may be termed as "fleecing" the short stock. This consisted in the short stock being combined with 25% or more of the long stock and run through the picker in the usual way of mixing, and then through a breaker card. This constitutes a mixture that will go along more uniformly with the other stock, both in the blow-room and in the carding; to be mixed in the regular "lay-down" for the picker, so as to secure the percentage of each kind as required.

The difficulty in definitely locating the real cause of cockles renders it wise to take every precaution to avoid them. All the precautions suggested are well worth while.

* * *

Editor, TEXTILE WORLD:—

We are in receipt of your letter of the 16th on Ramie and wish to thank you for the valuable information given us.

This is the most detailed information we have received on this subject.

Hoping that we may be able to reciprocate in some way, we remain.

Respectfully yours,
COHAN & MICHELSON
By B. Harrison Cohan

Wool Price Charts

Editor, Textile World:

I am considerably interested in the graph of the wool prices from 1921 to 1925 as shown in your June 6, 1925, issue, page 67 and I would like to inquire if the figure used in making this chart is based on domestic or foreign wool prices or a combination of both; also if you publish in any other of your issues a graph showing both the foreign and domestic wool prices and if so on what grades and quality were they based. (DC 119)

The index number for raw wool mentioned by the correspondent is based upon average monthly prices for fine medium Montana clothing, and Ohio ⅜ and ¼ blood wools. Only domestic wools were chosen for these index numbers because the index numbers for tops and worsted yarns are based upon domestic qualities, and we desired to make them as closely comparable as possible.

The top index is made up of fine domestic 64-66s quality, and high ¼ quarter blood of 50s quality. The yarn index is made up of 2-40s ½ blood (64-66s) and 2-32s ¼ blood (50s).

We run a wool chart once a month that presents separately the prices of fine medium Montana clothing, Ohio ⅜ and ¼ blood, Australian good combing and Australian crossbreds; these are not indexes but average prices for the month in each instance; this chart was last published June 13.

Possibly the attention of the correspondent has not been called to the "Textile World Analyst" which covers a forecast of trends and conditions for various branches of the industry each week and covers wool and its manufactures in our issue of June 13. We believe that in this we are giving the trade something that for textiles shows basic conditions and trends as accurately as do the leading economic services for general business. The most vital difference being that the economic services usually charge $100 or more a year, whereas our service is furnished to subscribers at no extra cost.

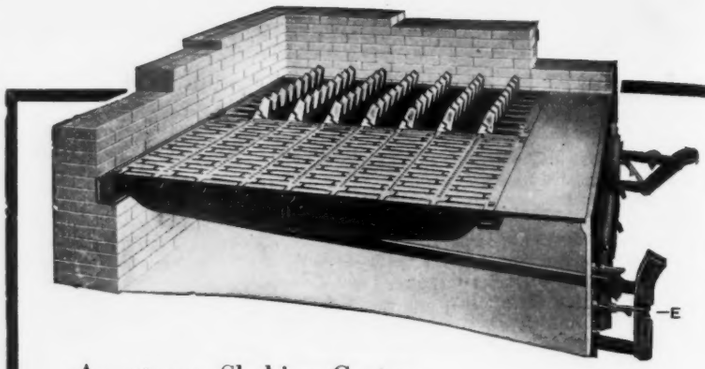
Dover, Del. The A. & M. Karagheusian American Corporation for Overseas, capitalized at $25,000,000, has applied for a charter under Delaware laws to deal in yarns, carpets, rugs, floor coverings and fabrics of all kinds. The incorporators are Arshag Karagheusian, Rumson, N. J.; Varcan Jinisian, Mt. Vernon, N. Y., and Minot A. Crofoot, Stamford, Conn. Incorporators of the new firm are members of A. & M. Karagheusian, Inc., carpet and rug manufacturers, with mills at Freehold and Roselle Park, N. J.

PECCO HEATERS

Serving the Pevely Dairy Co., St. Louis, Mo.

After considering different types of fan blast heaters and direct radiation to heat their garage, which contains 300,000 cubic feet, built of concrete with many windows and driving ramps connecting the different floors, Mr. Ralph Copp, Chief Engineer of the above plant, selected the PECCO HEATER. After installing same and seeing the results obtained, he placed orders for others to be used in the store room, machine shop and automobile repair shop. We invite you to write Mr. Ralph Copp in reference to this equipment, whom we believe will give you a favorable report concerning the operation and efficiency and low horsepower of this equipment.
Other plants, who are being served as well as the above are Pauly-Jail Building Company, Scruggs, Vandervoort & Barney, Kregal Casket Company, Griffith Furniture Company and many others. Write for full details of this equipment and catalog.

Pecco — 2957 North Market Street — Incorporated — Saint Louis, Mo.



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¶ We have one user who reports a fuel saving of $2,128.30 in two months firing.

¶ We have a user who installed one set on trial and has since installed 170 sets.

¶ We have a user who gets the same results with less coal from three boilers with our grates, that he got from four boilers with competing grates.

¶ We have a user who cleans fires with a loss of only five pounds of steam on a 300 H.P. Boiler when the indicated H.P. on the engine was 450 H.P.

and you don't pay a cent for these grates until you have tried them out in your own plant for thirty days.

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DALLAS, TEXAS, 2001 Magnolia Building
DENVER, 435 Seventeenth Street
SALT LAKE CITY, 405-6 Kearns Building
SAN FRANCISCO, Sheldon Building
LOS ANGELES, 404-406 Central Building
PORTLAND, ORE., 805 Gasco Building
SEATTLE, L. C. Smith Building
HAVANA, CUBA, Calle de Aguiar 104
SAN JUAN, PORTO RICO, Royal Bank Building
HONOLULU, H. T., Castle & Cook Building

MILL NEWS

COTTON

New Construction and Additions

ANDALUSIA, ALA. The River Falls Power Co. plans to build a cotton mill in Andalusia this year to be equipped with approximately 15,000 spindles, according to a recent announcement. It is said that a site of 50 acres has been purchased for the purpose.

*EAST HAMPTON, CONN. The Summit Thread Co. has awarded contract to the National Bridge Co., Meriden, for steel work in connection with the recently mentioned mill addition; steel sash, to G. F. Smart & Co., Hartford; glazing, Joseph B. Wilkinson Co., Meriden. Lewis A. Miller, Meriden, has the construction contract.

HAWKINSVILLE, GA. Cochran Mill No. 2 will install 24 90-inch Stafford looms in its plant here.

GASTONIA, N. C. The Pinkney Mills, Inc. are having new high duty humidifier equipment installed by the Parks-Cramer Co., Charlotte, N. C.

MCADENVILLE, N. C. The McAden Mills are adding a Delahunty raw stock dyeing machine to their equipment.

PHILADELPHIA, PA. Kaufman Plush Co., Manayunk, plush, dress goods and upholstery manufacturers, has awarded contract for the erection of a dyehouse addition, to Robt. E. Lamb Co., builders. The Ballinger Co., Philadelphia, architects, drew the plans.

PAWTUCKET, R. I. The Moore Fabric Co. is to build a one-story brick addition to its plant on Washington St., at an estimated cost of $30,000. The new structure, which will increase the floor space by 12,000 sq. ft., is to be built of red faced brick and will be 100 x 120 ft. The work is being done by the Pawtucket Cabinet & Builders Finishing Co., of Pawtucket.

*ANDERSON, S. C. The Gluck Mills have awarded contract to the Gallivan Construction Co., Greenville, S. C., for the construction of a 50 x 100 ft. extension to their warehouse. Standard warehouse construction will be used. The additional floor space will, for the present, be equipped for use as a cloth room. All machinery will be arranged for motor drive. Plans and specifications were drawn up by J. E. Sirrine & Co., engineers, Greenville, S. C.

*BOWIE, TEX. The Bowie Cotton Mills, capitalized at $459,000, plan to start construction of their plant this month. It will be equipped with 6,500 spindles and six broad looms for the production of cord fabrics. George Beveridge is president of company, and S. H. Stoltzfus, treasurer.

CLINTON, S. C. The Lydia Cotton Mills are preparing to install 100 46-inch Stafford automatic dobby looms.

*WALHALLA, S. C. The Kenneth Cotton Mills will manufacture fancy bed spreads on the 50 looms now being installed in their plant.

* Indicates previous mention of project.

Fact and Gossip

ANNISTON, ALA. Representatives of the Anniston Chamber of Commerce are circulating subscription lists in an effort to make up a fund to bring a large textile plant to their city. Anniston is asked to raise $65,000 in subscriptions to 6% stock in the concern. An effort is being made to diversify the industries of Anniston and cotton mills are considered very desirable acquisitions for this city.

JACKSONVILLE, FLA. According to a report, the Brown Textile Mills Co. has been incorporated with capital of $1,000,000 by J. N. Brown and associates, who plan to build a 20,000 spindle cotton mill.

ATLANTA, GA. Exemption from taxation for a period of five years for all new industries locating in Atlanta is provided for in a charter amendment recently approved by the Atlanta city council. Not only does the amendment provide a tax exemption on new industries, but a similar exemption for additions to the plants of established industries. The law, if passed, will go into effect on Jan. 1, 1926.

*MACON, GA. Stockholders of the Bibb Mfg. Co., voted to amend the present charter of the corporation so that additional preferred stock, not to exceed $5,000,000, may be issued. Under the present charter, the corporation has the power to issue $25,000,000 worth of common stock, but up to date the company has issued only $10,000,000 worth of this stock. Another meeting of the stockholders will be held on July 23, after the amendment has been granted, at which time the rate of dividend will be fixed and the new stock certificates issued.

SACO, ME. The York Mfg. Co. closed its plant on June 27 for a period of two weeks.

FITCHBURG, MASS. The three mills of the Parkhill Mfg. Co. shut down on June 24 until July 6.

WHITE VALLEY, MASS. The White Valley Mills of White Bros., Inc., have closed for an indefinite period.

NEW BEDFORD, MASS. Purchase of Manomet No. 3 mill by the Nashawena Mills at a price said to be in the neighborhood of $1,000,000, and the turning over of the plant into a fine weaving department for the manufacture of fine and fancy cotton and silk fabrics, is understood to be the plan being considered by the William Whitman interests.

NEW BEDFORD, MASS. Purchase of a controlling interest in the New Bedford Spinning Co.'s plant is being negotiated by Robert Amory and associates. Mr. Amory, head of the textile selling house of Amory, Browne & Co., Boston and New York, has for some time been acting as the selling agent of the plant. It is understood that the installation of more looms is being contemplated.

MANCHESTER, N. H. The Amoskeag Mfg. Co. has closed its fancy gingham department until about July 15. Curtailment is also being considered during the summer in other divisions.

CHESTER, PA. Rosanna Mill, Inc., 3rd & Booth Sts., manufacturers of plushes,

A NEW OIL SWITCH FOR TEXTILE MILLS

The Type ZO Starting Switch is an Oil-immersed remote control starting switch for across-the-line starting of single phase and polyphase A. C. motors.

It will take care of polyphase motors up to and including 10 HP except on 110 volt when the limit is 5 HP.

The overload trip operates on the EC&M expansion wire principle and absolutely prevents motor burn-outs due to overloading or phase failure.

The Type ZO Starting Switch provides no-voltage protection or no-voltage release as desired.

All are breaking contacts are under oil so that the Switch is safe to use in atmospheres charged with lint or dust.

Corrosive fumes do not injure the Type ZO Switch as all internal parts are lubricated by capillary attraction and a slight splashing of oil as the Switch closes.

The Type ZO Switch is clean as there is no leakage or creeping of oil to the outside of the tank.

In order that you may see the quality of this Switch we will accept trial orders and pay transportation charges.

Full details in Bulletin 1048

THE ELECTRIC CONTROLLER & MFG. CO.
CLEVELAND, OHIO
BIRMINGHAM - BROWN-MARX BLDG.
CHICAGO - CONWAY BLDG.
CINCINNATI - PROCTER & GAMBLE BLDG.
DETROIT - DIME BANK BLDG.
NEW YORK - 50 CHURCH ST.
LOS ANGELES - THOMAS MACHINERY CO. AMERICAN BANK BLDG.
PHILADELPHIA - WITHERSPOON BLDG.
PITTSBURGH - OLIVER BLDG.
SAN FRANCISCO - CALL BUILDING
SEATTLE - 524 FIRST AVE. SOUTH
TORONTO - TRADERS BANK BLDG.

MEECO COOLERS

Use Less Ice

MEECO Coolers use less ice per man per season than other types because the tank and coil capacity is scientifically designed to supply a greater number of men on each charge of ice.

The MEECO guard-bowl and slant-stream bubbler insure positive sanitation. The Keith Bubbler-head, an exclusive feature of MEECO Coolers, keeps the drinking stream at a fixed height regardless of varying water pressure.

No MEECO Cooler has ever worn out. Many have done steady service for over fifteen years.

Over 8000 companies in 200 lines of industry are using MEECO Coolers to increase the efficiency of their workers during hot weather.

Why not give your men the vital benefit of clean, cool drinking water and save many dollars a year on every worker you employ? Now is the time to investigate this saving. Why not write us today?

Complete Catalog Gladly Sent on Request

Sanitary Washbowls *Shelving* METAL MEECO PRODUCTS *Chairs and Stools* *Lockers*

MANUFACTURING EQUIPMENT & ENGINEERING CO.

Originators and World's Largest Makers of Ice-Cooled Drinking Fountains

FRAMINGHAM, MASS.

Keeps Them "On the Job"

Your employees need clear, cool, fresh water from Rundle-Spence Vertico-Slant Sanitary Drinking Fountains. It keeps them "on the job"—contented and invigorated—working at top speed during the hot days when the tendency is to "slacken."

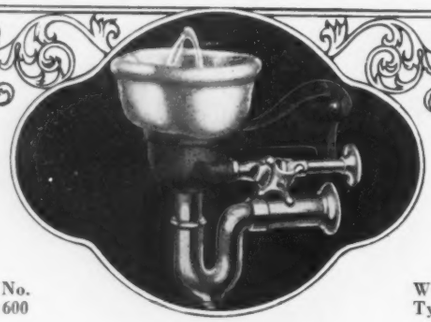
This is a sanitary fountain—because *lips can't touch the nozzle.* The slight slant stream prevents water from falling back upon the jet. Everyone may drink without contracting or spreading contamination through lip contact.

The R-S line includes Sanitary Drinking Fountains, Bath and Plumbing Supplies and Fixtures. Write for the R-S Catalog with prices, specifications and complete information.

Rundle-Spence Vertico-Slant Sanitary Drinking Fountains may be had with body coolers if desired. They are designed for use in every kind of industrial plant.

RUNDLE-SPENCE MFG. CO.
67 Fourth St., Milwaukee

RUNDLE-SPENCE



No. 600 Wall Type

This Wall Fountain Solves the Problem

From the smallest factory to the biggest plant, this Halsey Taylor Wall Fountain provides the most sanitary source of drinking water for the workers. Thousands of installations of No. 600 are to be found from coast to coast. Not only is it an inexpensive unit, but it possesses features not found in any other make. **Automatic stream control**—the water is always at uniform height regardless of pressure. **Two-stream projector**—it is impractical for lips to touch the source of supply. Why not investigate the complete line of Halsey Taylor Drinking Fountains and Coolers—it costs no more to have the best!

The Halsey W. Taylor Co.,
Warren, O.

HALSEY TAYLOR

Automatic Stream Control

DRINKING FOUNTAINS

Bradley Equipped Washroom in the Holeproof Hosiery Plant

This is the way we wash our hands — The Holeproof Hosiery Girls.

The Bradley Washfountain

Textile plants all over the country are installing the time saving, water saving, space saving, sanitary "Washfountain." Just as the "Bubler" Fountain has replaced the old tin drinking cup so the modern "Washfountain" is replacing the old dirty washing troughs, sinks and bowls.

A few of the plants now using Bradley Washfountains

Real Silk Hosiery Co.	Holeproof Hosiery Co.
No. American Lace Co.	Daniel Boone Woolen Mills
Phoenix Hosiery Co.	Louisville Textile Co.
Benton Hosiery Mills	Loraine Manfg. Co.
National Dye Works	Wm. Brown & Co.
Milwaukee Worsted Co.	Appleton Woolen Mills
American Textile Woolen Co.	

Two sizes, 54-inch and 32-inch diameter for ten or six people

Write for Catalog

BRADLEY WASHFOUNTAIN CO., Milwaukee, Wis.

Eastern Representatives { W. H. SILPATH, 2401 Chestnut St., Philadelphia. A. C. COOPER, 280 Madison Ave., New York. ARTHUR S. HALL CO., 3 Berkmans St., Worcester, Mass.

"SELLERS"

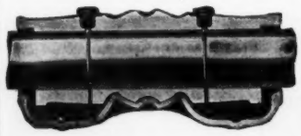
HANGER BOXES

Made in many ways.

Cast iron surfaces.

Babbitted surfaces.

Lined with any special kind of babbitt to suit almost any condition or speed.



Fitted with or without oil wipers. Made reasonably dustproof.

The hardened steel spring oil rings remain true and round.

These boxes will fit Set Screw Hangers.

Try them when you have worn boxes.

WM. SELLERS & CO.

Incorporated

Main Office and Works:
PHILADELPHIA, PA.
Southern States Sales Agent
A. G. New, Greenville, S. C.
Machine Tools and Injectors

Mill News—Continued

velours, etc., has recently completed the purchase of the plant and machinery of S. A. Crozer & Son at Upland, Pa., for a price approximating $200,000. This mill which formerly made cotton plaids, cheviots, etc., having an equipment of 12,900 ring spindles and more than 600 narrow looms besides supplementary machinery, has been idle since last December. The purchasers are a Pennsylvania corporation, having been in business for more than six years.

WOONSOCKET, R. I. It is reported that machinery of the Clinton Mill of B. B. & R. Knight, Inc., is being shipped to other plants of the corporation.

ABILENE, TEX. C. R. Miller, of the C. R. Miller Mfg. Co., Waco and Dallas, addressed a joint meeting of the Lions and Kiwanis Clubs last week, telling just how Abilene may go about securing a cotton mill. This was the initial step looking to the building of a cotton mill in Abilene.

WOOL

New Construction and Additions

*SEYMOUR, CONN. The Tingue Mfg. Co. has started work on a brick mill addition 40 x 120 ft. A new brick front will be built on the old building. The work is being done by the day from private plans.

STAFFORD SPRINGS, CONN. The Warren Woolen Co. has awarded a general contract to the Aberthaw Construction Co., Boston, for a new reinforced-concrete dye house, totaling about 20,000 sq. ft. of floor space. The company also plans for the construction of a new dock for coal storage service.

*PITTSFIELD, MASS. Bids were received during the past week for the new spinning and carding unit for the Pontoosuc Woolen Mfg. Co., from plans by Charles T. Main, engineer, Boston.

PHILADELPHIA, PA. Franklinshire Worsted Mills, 2120 W. Allegheny Ave., manufacturers of worsted fabrics, will move within a short time to new and larger quarters at 3rd & Westmoreland Sts., where they will operate 90 looms, representing an increase of 50 looms over their present equipment.

*BLOOMSBURG, PA. The Magee Carpet Co. has awarded contract to the H. A. Moore Co., of Milton, Pa., for erection of a new building and alterations to adjoining buildings. New construction will consist of a three-story and basement printing building and a two-story bridge building over the driveway. Drawings and specifications were prepared by the Ballinger Co., architects and engineers, Philadelphia and New York.

WOONSOCKET, R. I. The Uxbridge Worsted Co., Inc., has installed 2,800 worsted spindles in that part of the Glenark Mill formerly occupied by the Manchester Co.

Fact and Gossip

SLATINGTON, PA. Community Rug Mills, Inc., have received a charter of incorporation, having a capital of $15,000 of which $1,500 is paid in. They will manufacture rugs and tapestries. Stockholders mentioned are O. B. Brush, James G. Rauch and Harvey H. Steckel, all of this city.

SEATTLE, WASH. The Bradford Woolen Mills, Inc., have been incorporated with capital stock of $10,000. The incorporators are C. Drew, Louis Singer, C. H. Kalmans, and Fannie Kalmans, 1600 E. Madison St., Seattle.

KNIT

New Construction and Additions

ANNISTON, ALA. The Avalon Knitwear Co. will transfer one unit of its knitting plant from Utica, N. Y., to Anniston immediately, according to announcement of the Anniston Chamber of Commerce. All arrangements are to be made with the understanding that operations are to begin by Oct. 1.

LOS ANGELES, CAL. According to a report the Hollywood Silk Hosiery Mills, Inc., have been organized with capital of $500,000, to manufacture and sell silk hosiery. It is said that the new firm will erect a mill in Hollywood and sell its product direct through its own retail stores, the first of which will be located at 6752 Hollywood Blvd. J. H. Schmitz, formerly connected with large hosiery firms in the East, is president of the company; Clarence D. Hutson, president of the Hollywood Finance Co., Inc., vice president; Roger E. Jones, secretary and treasurer of the Hollywood Finance Co., and previously connected with large manufacturing concerns in Milwaukee and Minneapolis, secretary; Frank Lawrence, editor-in-chief of the Universal Pictures Corp., second vice president, Benny Zeidman, general manager of the Warner Bros. West Coast Studios, is one of the directors.

ROCHELLE, ILL. The Rochelle Knitting Mills, Inc., have been chartered with a capital of $35,000, and 350 shares of stock, no par value, to operate a plant at 509 S. Second St. The company is headed by George N. Grieve, Frank C. Carney and M. D. Hathaway.

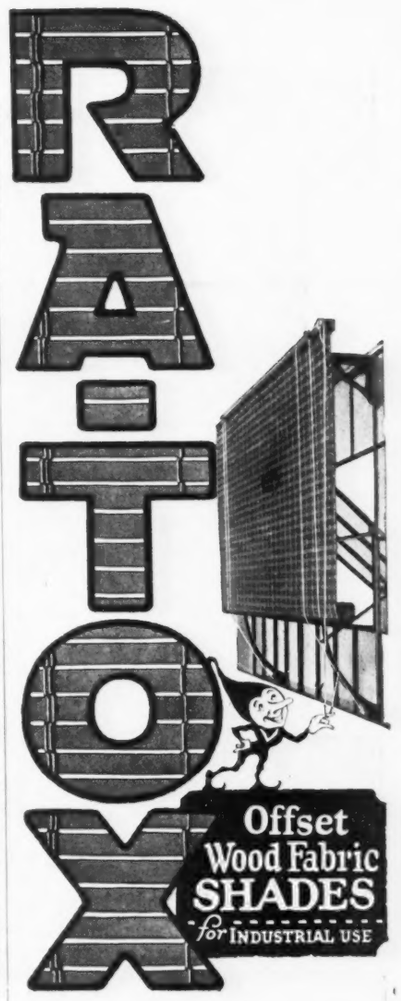
NEW BRUNSWICK, N. J. The Kennedy Mfg. Co., Inc., chartered under the laws of New Jersey, will start operation July 1 in a two story brick plant at 7-13 Bethany St. The company has purchased entirely new equipment, consisting of the latest development in fine gauge circular knitting machines, cupless winders and motor driven extractor. The product will be fine gauge rayon fabric, plain and fancy. The officers of the company are Edward J. Kennedy, Jr., president, George E. Kennedy, vice-president, and T. M. Quinn, secretary.

*JOHNSTOWN, N. Y. Grewen & Lenon Co., Inc., recently noted organized with capital of $60,000, has leased a plant here and will begin the manufacture of chamoisette cloth and gloves early in July. Wm. Grewen is president and James S. Ireland, treasurer of the new company.

VALATIE, N. Y. The Valatie Mills Corp. has plans under way for the erection of a new hydro-electric power plant. Engineers will survey the site within the next few weeks before construction work is started.

*WATERTOWN, N. Y. The Shaughnessy Knitting Co. has awarded a general con-

* Indicates previous mention of project.



No Glare
More Air

The sun glare, likewise excessive heat, is eliminated.

Open your ventilator while the shade is drawn for RA-TOX Shades by a patented process are guided around the ventilator and brought back flush to the wall at the base.

You get 30 to 40% more light and air than is possible with any other type of shade.

Painstakingly made from beautifully stained basswood strips, RA-TOX Shades are sun fast, and woven parallel with hard twist seine twine. RA-TOX Shades will outlast six or seven replacements of the ordinary type of shade.

Good to look at—long lasting—easy to install—and remember, more light and more air.

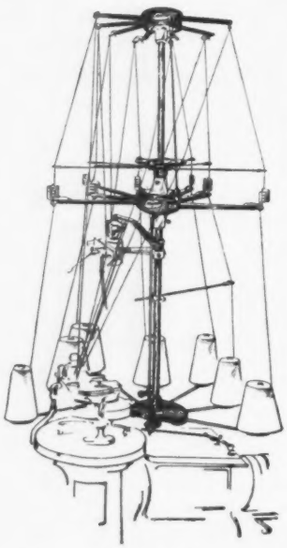
Special fixtures have been developed for all types of steel, hollow metal and wood sash installation.

RA-TOX Shades cost no more than ordinary shades. Send specifications today for price quotation and descriptive literature.

Hough Shade Corporation
Industrial Division
168 N. La Salle St., Dept. T.,
Chicago, Ill.

30 to 40% MORE AIR AND LIGHT

Crawford



Stop Motion
for
Hosiery
Knitters

CRAWFORD STOP MOTION

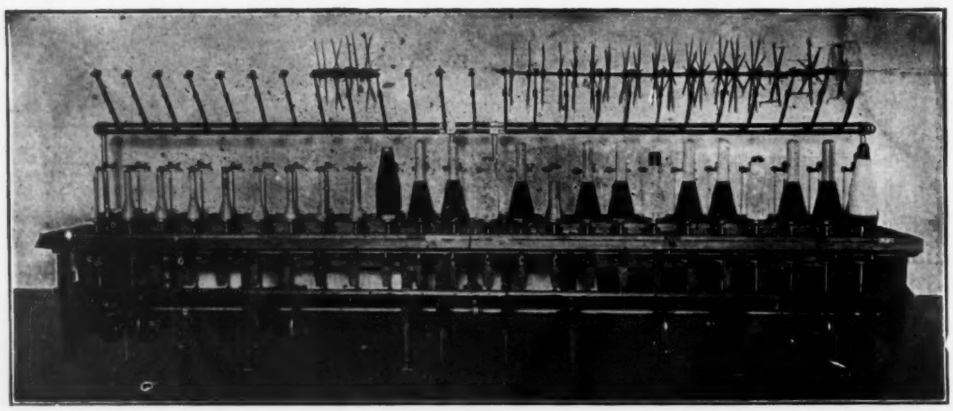
Every hosiery yarn protected!

The new Crawford Stop Motion for Hosiery Knitters keeps an "eagle watch" on every yarn. Imperfections in plaiting yarns can't get by. Knots, slubs and lumps are prevented from reaching the needles—the point where seconds and waste originate.

In preventing press-offs, the Crawford eliminates a good deal of machine wear and tear. The result is a better running—more durable machine. Needle life is greatly conserved. Production inevitably benefits. Less time is taken out.

The newest Crawford device is a worthy addition to the regular and E O B types used by a host of knitters in connection with the knitting of underwear, sweaters, neckties, etc. May we send fuller details?

THE CRAWFORD MFG. CO.
NEW BRUNSWICK·N·J



PRODUCTION WINDING OF QUALITY

Secured with the "Improved Cup-less Winder"

Do you know the five points of "WINDING EFFICIENCY?"

LINDSAY, HYDE & CO. PHILADELPHIA, PENNA.

Mill News—Continued

tract to L. W. Charlebois, Watertown, for the erection of its proposed one-story, reinforced concrete power plant, 40 x 49 ft., for which plans were drawn by Thomas Phillips, local architect.

*Charlotte, N. C. New machinery is being installed in the recently completed building of the Nebel Knitting Co. at 1812 South Boulevard, which provides the company with double the space of its present plant on Kingston Ave. Several new full-fashioned machines are being installed and the present equipment will be moved, one machine at a time, so as to interfere with production as little as possible.

Philadelphia, Pa. Howard Hosiery Co., D & Ontario Sts., are installing new full-fashioned machines in addition to their previous equipment which now gives them 12 full-fashioned and 75 spring needle machines. William Tait is superintendent and Samuel Tait is the buyer. They will buy 4 to 10 thread silk, 100 and 150 denier rayon and 30s to 100s cotton and mercerized yarns. Their products are sold direct to jobbers.

Philadelphia, Pa. Schletter & Zander, Inc., Kensington Ave. & M St., full-fashioned hosiery manufacturers, have awarded contract to Wm. Steele & Sons Co., Inc., for the erection of a new mill building to be located at S. W. Cor. Rhawn & Tulip Sts., Frankford, which will cost $100,000.

Gaffney, S. C. The Sultrene Mills, Inc., men's and women's sport hosiery, are operating at full capacity and plans are under consideration for installing additional machinery in the early future.

*Spartanburg, S. C. The Powell Knitting Co., of Philadelphia, purchaser of the Model Mill here, plans immediate expansion of the property to three times its present size.

*Chattanooga, Tenn. Mark K. Wilson Co., of Chattanooga, has been awarded the general contract for the new full-fashioned hosiery unit of the Davenport Hosiery Mills. Excavation work for the building has commenced.

Yoakum, Tex. C. Mankin, of Liberty Hill, Tex., will build a mill here for the manufacture of men's and children's silk hosiery. It is expected to start operations about Oct. 1.

Fact and Gossip

Cohoes, N. Y. Local textile plants will observe the annual vacation from Aug. 23 to Sept. 1. Inventory will be taken and repairs made in virtually all mills during this period.

New York, N. Y. William D. Moore has been appointed receiver for the Krossknit-Direct Mills, Inc., underwear, hosiery and sweater manufacturers, with mill at Rider Ave. and 142nd St., in bond of $10,000. The company is stated to have liabilities of $100,000, and assets of about $20,000.

Philmont, N. Y. The High Rock Knitting Co. is making extensive repairs and improvements to its tenement property in Mill St.

*Philadelphia, Pa. Deerden Hosiery Mills have been granted a charter of incorporation with a capital of $40,000 of which $4,000 is paid in. Wallace T. Stewart, Lansdowne, Pa., is treasurer; George M. Mundy, Packard Bldg., Jesse Huntley, 2434 N. Newkirk St., Mary K. Christian are stockholders.

*Philadelphia, Pa. A charter has been granted to Mock, Judson, Voehringer, Inc., a new concern which will manufacture full-fashioned hosiery, at Ontario & D. Sts. The capital is $200,000 with $20,000 paid in, par $100. Stockholders are John H. Lucas, 1351 Filmore St., John K. Voehringer, 7226 Castro Ave., and Nathaniel Judson, Lawrence, L. I.

South Langhorne, Pa. A charter of incorporation has been granted to a new concern called Modern Maid Silk Hosiery Co., to engage in the manufacture of silk hosiery. It has a capital of $50,000 of which $5,000 is paid in. Stockholders are Jacob H. Good, Chas. F. O'Brein and Hoyt A. Kersey, all of Langhorne, Pa.

London, Ont., Canada. The plant of Hall-Acme Canada, Ltd., which has been idle since the company became insolvent last November, has been leased by the Hudson Knitting Mills, Inc., of West Hoboken, N. J., for a branch plant.

SILK

New Construction and Additions

New Bedford, Mass. The National Spun Silk Co. has installed about 50 looms which are now running, and more are being put in, so that when complete there will be 120 looms in operation.

Spring Valley, N. Y. John Chabra, formerly secretary and treasurer of the Home Silk Co., has organized a new company to be known as the Kackiat Silk Co., with capital of $20,000, to operate a local mill for the production of broad silks.

Cleveland, Ohio. The Industrial Fibre Co. is taking bids for a number of one-story buildings, 100 x 200 ft., 50 x 80 ft., 20 x 60 ft., 100 x 100ft., and 41 x 200 ft., estimated to cost $200,000, with equipment. C. A. Nau is construction manager for the company.

Lewistown, Pa. The Viscose Co., Marcus Hook, Pa., has awarded a general contract to Ray S. Shoemaker, Philadelphia, for a one-story addition to its local plant, 90 x 160 ft., to be equipped as a machine and wood-working shop, estimated to cost $50,000, with machinery. The Ballinger Co., Philadelphia, is architect.

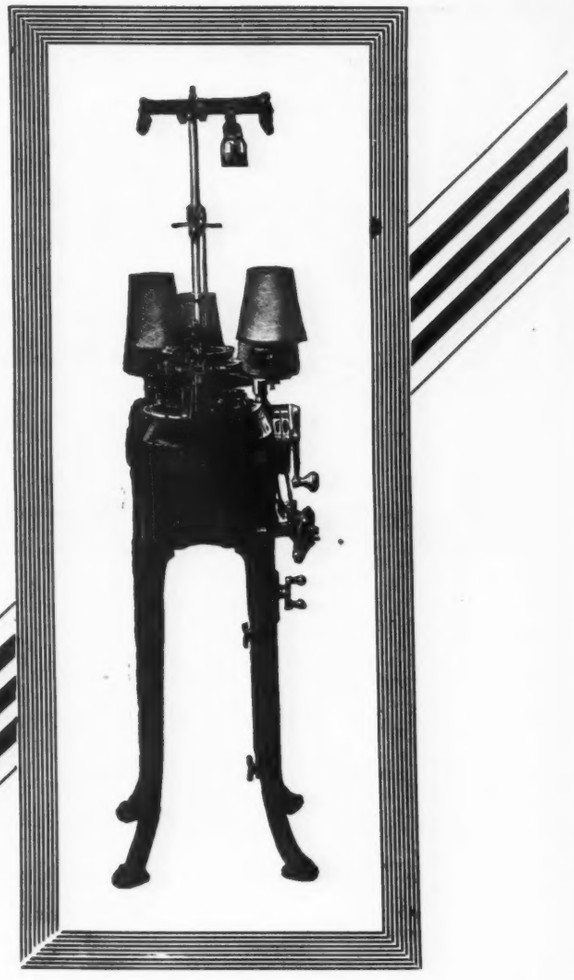
Williamsport, Pa. The West Branch Silk Co., Inc. is erecting a one-story, 120 x 40 ft. extension to its plant here and will add 20 looms to equipment.

Fact and Gossip

*Mystic, Conn. Creditors of the Robinson Silk Co., have been advised by their committee, headed by Morton H. Meinhard, of Morton H. Meinhard & Co., that the assets of the Robinson company have been transferred to the Sadonia Mills, Inc., which is now operating the plants, and that stock in the new company will be issued shortly, as provided for in the agreement.

Buffalo, N. Y. The du Pont Rayon Co. is now giving employment to about 2,000 operatives under a full time

* Indicates previous mention of project.



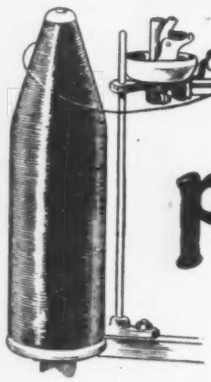
GUARANTEE

On Standard Hosiery Machines, we guarantee a production which cannot be equalled, a great saving in floor space, an absolute absence of picker trouble and an unparalleled flexibility in changing patterns.

What more need we say, other than to ask you to send for our catalog, which clearly illustrates and explains all of the exclusive and superior features of the Standard Machine.

Send for it today.
No obligation.

STANDARD-TRUMP BROS. MACHINE CO., *Wilmington, Del.*



It's a profit builder

Lever Winders

are equipped with Contact Cup Builders of Lever design, which ensures you a perfect bobbin that your knitters like.

The Lever Contact Cup Builder builds a perfect bobbin with the finest denier of art silk without a blemish.

Do your bobbins unwind to the last layer without a break? If they don't, it's time to see us.

OSWALD
LEVER
CO., INC.
PHILADELPHIA
STARTED IN 1880

CHARLES COOPER'S
Machine and Needle Works
BENNINGTON, VERMONT

G. H. ROGERS, Representative, 153 Ontario St., Albany, N. Y.

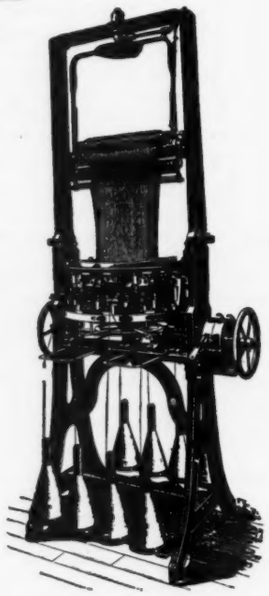
Spring and Latch Needle KNITTING MACHINERY

STANDARD FOR

Plain Ribbed, Circular and Flat Underwear
Shirt Cuffs
Drawer Bottoms

Rib Cuff Cutting Machines
Burr Wheels and Burr Blades
Balmoral Collarette Machines
Automatic Rib Cutting and Folding Machines

SPRING AND LATCH NEEDLES



Spring Needle Rib Body Machine

SOLE AGENTS FOR CHINA
ELBROOK, INC., 51 Kiangse Road, Shanghai, China

Established 1870 Incorporated 1890

Get Repeat Orders by Using

Crane Spring and Latch Needle Knitting Machinery

SOME CRANE FEATURES

Patent removable hardened Wing Burr Wheels.
Patent Thread Stop Motion can be fitted to 20 in. and 32 in. frames and are specially adapted for making fine Jersey Cloth and Stockinet.
Our flat machine is adapted for knitting collarettes.

SPRING NEEDLE UNDERWEAR MACHINE WITH AUTOMATIC TAKE-UP

This machine is made in sizes from 13" to 26" in diameter of any desired gauge, the number of feeds depending on the size of cylinders. Also built in sizes from 2½" to 32" in diameter for the production of a great variety of fabrics.
Aside from the feeds for plain fabrics, the stockinet, eiderdown and astrachan feeds are superior to any on the market.

IMPROVED AUTOMATIC COLORED PLAIN STRIPER

Made in sizes from 7⅝" to 20⅝" inclusive, of any desired gauge; these measurements being back to back of cylinder needles.
The fabrics from this machine are used for bathing suits, theatricals and athletic goods.
These machines are second to none on the market.
The Crawford stop-motion is applied when requested.

"It Pays to Use Good Machines and the Best Are None Too Good."—Our Motto

LET US SEND YOU FURTHER FACTS

CRANE MANUFACTURING CO., Lakeport, N. H.

Mill News—Continued

schedule, and will continue on this basis indefinitely.

EMAUS, PA. The Emaus Silk Co. is making improvements at its plant and will install a number of new looms and auxiliary equipment to replace old machinery.

PITTSTON, PA. Fire last week destroyed a building at the mill of the Bentley Silk Corp., with loss estimated at $20,000. It was used primarily for storage service. Rebuilding is under consideration.

DYE, BLEACH AND FINISH

New Construction and Additions

HAWTHORNE, N. J. Washbauer & Kramer, Inc., recently formed with a capital of $50,000, plan the operation of a local dye and print works, principally for ribbons. The company is headed by Isidor Washbauer and Alfred Kramer, both of Hawthorne.

*NORTH BERGEN, N. J. The Universal Mercerizing Co., Inc., formerly located at West Hoboken, N. J., is now carrying on active operations in its recently completed plant at 164 Liberty Ave., North Bergen. The new building has floor space of 10,000 sq. ft., and is equipped with machinery of the most modern type for mercerizing, dyeing, bleaching, coning, tubing and copping.

PATERSON, N. J. The Royal Piece Dye Works, Inc., have awarded a contract without competition to the F. G. Pittet Construction Co., Paterson, for the erection of a two-story dye house, 100 x 250 ft., to cost approximately $90,000, with equipment.

PAWTUCKET, R. I. The Acme Finishing Co., has been granted a permit to erect an addition to the dyeing and finishing building of its plant, at a cost of $2,500.

MISCELLANEOUS

New Construction and Additions

BRIDGEPORT, CONN. The Reel Braid Co., whose heads formerly operated a plant in Norwalk under the name of the Griffing Mfg. Co., has leased the building at the corner of East Washington Ave. and Knowlton St., and will engage in the manufacture of silk braids and shoe laces there.

*WORCESTER, MASS. Louis Krintzman, woolen waste, 29A Harrison St., has let contract to a Boston contractor for the erection of a reinforced concrete and steel, four-story, 60 x 39 ft., addition to his plant, to cost $28,000. E. T. Chapin is the architect.

SEATTLE, WASH. The Western Mattress Co. has tentative plans under advisement for the rebuilding of the portion of its plant destroyed by fire, June 19, with loss reported at $75,000, including equipment.

Properties of Wool

(*Continued from page* 93)

fibre owes its strength and elasticity to the cortical layer.

3. *Medulla.* The marrow of wool consists of round or slightly flattened cells, and varies in size for the different varieties and grades of wools. A fine wool often shows very little inner structure. The function of the medulla is to provide the living fibre with an inner canal for the flow of juices, whereby it receives nourishment for growth. It also influences the porosity of the fibre, forming a capillary tube whereby the latter may absorb solutions of various kinds, which naturally has an important bearing in the dyeing ability of the fibre. The medulla varies in size greatly even in the same fleece, at times occupying as much as ⅓ of the entire diameter of the fibre, and at others almost disappearing.

Contain Pigment

The medulla cells frequently contain pigment matter, either continuously or in isolated cells. In white wools, the contents of the cells are fine granular masses and air. Sometimes the pigment permeates not only the medulla but also the cortical layer, in which case the fibre as a whole appears colored. Artificially colored wools can be told from those which are naturally colored by the different appearance of the walls of the medulla cells, which in the case of a dye being added are evenly colored. A kempy wool has a very imperfectly developed medulla. In pulled wool the medulla usually is stopped up with lime, which affects its dyeing qualities.

The combination of the above structures results in an ideal arrangement to resist the mechanical actions of cloth manufacture. It resists tortional strain to a remarkable degree, and when the breaking point is reached the fracture always takes place at the juncture of the two rings of the outer scales, the embedded edges of the lower layer being pulled out of their settings. The scales themselves are never broken. The structure is again adapted to prevent injury by flexure. In the wool fibre, the cells in the center, being more or less plastic, are temporarily deformed; and the outer scales, being free for a portion of their length, slide over one another to the extent required. When the strain is removed, the central or medullary cells tend to resume their position, the fibrous cells of the cortical layer to straighten themselves, and the outer epidermal scales to resume their original position, thus causing the fibre to straighten.

These valuable properties of the fibre are affected by the processes and chemicals used, which tend to modify or destroy the structural arrangement. All of the foregoing is preliminary to a study of chemicals used in the processes of wool manufacture and their action on the fibre and its constituents. It will be seen that the action of such reagents has a highly important function in wool manufacture.

The terms used in the purchase of reagents or ordinary chemicals are familiar in general to all textile men, but the chemical processes involved in their use are not so well known, and a further article will deal with the ordinary definitions of acids, alkalis, soap and so on, together with the interpretations of these terms in layman's language.

PARAMOUNT

Forms and Method of Drying and Shaping Hosiery

The simplest and yet the highest developed, most efficient and satisfactory method of drying hosiery, in the world, today.

No POWER costs. LOW PRESSURE or EXHAUST STEAM only requirement. Nothing mechanical. The only form on which you can use the PARAMOUNT METHOD FABRIC HOLDER. This HOLDER prevents creeping during the drying process and provides for uniform lengths.

PARAMOUNT EQUIPMENT may be purchased or rented.

PARAMOUNT SERVICE GOES WITH ALL PARAMOUNT PRODUCTS

PARAMOUNT TEXTILE MACHINERY CO.

Hunter Building

Market and Madison Streets, Chicago, Ill.

Fancy Half Hose

B–Vertical Floating Striping Machine.
B–Vertical Floating Striper and Dot Machine.
*** B–6 Machine.**
*** B–7 Machine.**

These machines offer a variety of styles and colors to meet all demands.
Simple patterns may be produced on these machines as well as the more comprehensive styles containing a multiplicity of colors, checks, dots, etc., incorporating in one machine the advantages of all these desirable features.

* Models B–6 and B–7.

These machines are built with six and seven yarn feeding fingers, respectively. These machines are of floating vertical stripe design.

The vertical stripes are produced by groups of knitting needles knitting with one or two yarns used for plaiting, thus producing a perfectly clear and positive vertical stripe of a greater width than can be produced with reverse plaiting needles, particularly when using worsteds or soft yarns on coarser gauges.

The vertical stripes can be located throughout the circumference of the stocking as desired, by the use of jacks under the needles to produce the vertical stripe of the width desired.

These machines will produce horizontal stripes of any design of a multiple of twenty-four courses if two or more course width stripes are desired. Any pattern of single course stripes that is a multiple of twelve courses can be designed.

The vertical striping attachment on these machines is so arranged that when making plaids or checked patterns small squares can be inserted in the middle of the check or vertical stripe.

The above machines can be set up for either men's half hose or ladies' hose, if desired.

Established 1865

SCOTT & WILLIAMS

Incorporated

366 Broadway **New York**

KNIT GOODS MARKETS

Infants' Socks Open; Some Prices Lower

New Lines Attractive, with Rayon the Feature—Large Early Business Reported

Specific information regarding the prices on infants' socks and children's seven-eighths goods for 1926 is gradually seeping through the selling market. Tentative prices have already been adjusted, in instances, but some of these realignments have been upward as well as downward and it seems unlikely that the unsettled conditions which followed the openings during the last few years will be duplicated. Comparisons with last year's prices on specific lines are made difficult because of changes in the character of individual numbers that have been made. It is a fact, however, that on several important lines certain numbers on which comparisons are possible show reductions this year. In several cases numbers are offered at reductions of 10c. In one or two higher priced numbers the decline is considerably greater.

At this writing it is a fair statement that while considerable merchandise is being offered at prices unchanged from those on which bulk business was booked for this season, 1926 prices will average somewhat under those for 1925.

Attractive New Lines

Those of the new infants' socks lines which are open for public inspection follow closely the predictions made for them. Increasing use of rayon is distinctly the feature. Extremely attractive patterns are being shown, though there appear to be no radical departures from the designs of last year, which was the high water mark in styling for this branch of the business.

Drop stitches are featured in practically all numbers in important lines. Sellers expect full mercerized goods to take even a smaller proportion of the total business than has been the case this season. Plain white legs will probably be more passé than ever.

Early Reports Good

Reports on early business are generally encouraging. On one line it is stated that one buyer has placed an order for 27,500 dozen infants' socks, fully detailed. On the product of another mill it is declared that the selling agent received business totaling 60,000 dozen during his first two days in Chicago.

These early reports are always to be taken with several grains of salt. The number of buyers who have been in the New York market is small and there will certainly be more shopping around this year than ever. Yet no reason exists to doubt the fact that initial business will be much more satisfactory this year than last, considering the industry as a whole.

Hosiery Notes

General market conditions are quiet and unchanged. Prices on the general run of merchandise appear firm, with no changes of consequence. It has been a typical June, although volume has been considerably better than that of last year.

* * *

The Harry T. Stuart Co., New York, has been appointed selling agent for the Vogue Hosiery Co., Waupun, Wis., manufacturer of rayon plaited infants' socks with full fashioned jacquard tops, and infants' hose with jacquard legs.

* * *

Here and there slight weakness is reported on certain numbers of men's popular priced novelties, but this is not believed to be indicative of anything other than variation in the amount of success which individual offerings always attain. Generally speaking, novelty half hose appears to be as strong as ever, though a few mill representatives report some decrease in interest from jobbers.

* * *

Organization of the Hosiery Manufacturers' Association of New York and New Jersey has been announced. Reinhard Huettig, vice-president and general manager of the Paterson-Mutual Hosiery Mills, Inc., Paterson, N. J., and a trustee of the new association, has described it as "a sort of neighborhood association" which will devote itself to local problems.

* * *

A representative of the International Knitting Co., operating a number of seamless hosiery mills in Japan, is now in this country. It is understood that he has purchased a number of American full fashioned hosiery machines, to be installed and operated in Japan. Plans of the Japanese concern are understood to contemplate the sale of the major portion of its full fashioned output in the United States.

* * *

A recent visitor to England reports seeing a new English full fashioned hosiery machine which was claimed to have revolutionary possibilities. Other than the fact that the new machine sells for approximately $10,000 no information regarding it is available.

* * *

The Gotham Silk Hosiery Co., Inc. reports 46% of the business in its shops last week was on chiffons and 54% on regular weights. Whites took 23% of the business, colors 66% and blacks 11%.

Acorn Line Opened

The Acorn Hosiery Mills, Inc., Reading, Pa., leading factors in the infants' socks and children's seven-eighths business, have made the following prices on merchandise for spring, 1926:

INFANTS' SOCKS

Sizes 4–7½; usual advance on larger sizes; usual terms.

White mercerized legs, rayon tops	$1.65
Colored mercerized legs, rayon tops	1.75
Full mercerized, Ingrain	1.67½
All-rayon, dip dyed	2.25
All-rayon, Ingrain	2.35
Rayon plaited over mercerized, vertical stripes	2.35
All-rayon, horizontal stripes	3.00
All-rayon, fancy checks	3.25

SEVEN-EIGHTHS

All-rayon juveniles, sizes, 5–7½, fancy tops	$3.25
Rayon plaited over mercerized, solid color plain ribbed top	3.25
As above, with self colored Brinton tops	3.50
As above, with fancy top	3.75
R I rayon plaited, jacquard tops	4.50
R I pineapple stitches, as above	4.75
R I fancies, all-rayon horizontal stripes	4.75

Comparison of the above prices with those of a year ago is difficult because of changes in the line, but in several cases where direct comparison is possible the new prices are slightly lower than those named a year ago. The line is sold by the Harry T. Stuart Co. and A. G. Campbell, New York. Unusually good initial business is reported, one order having been placed for 27,500 dozs, with all details.

Southern Mill for Avalon

The Avalon Knitwear Co., Utica, N. Y. will start operations in a branch mill at Anniston, Ala. this fall, according to announcement by the Anniston Chamber of Commerce. It is stated that machinery will be transferred South from Utica, and that 100 operatives will be employed in the Anniston plant. The city of Anniston is giving the site for the plant, and is erecting a building which the Avalon will lease for ten years.

New Jobbing House

Louis Talasnick has announced that he will engage in the jobbing, converting, and commission business, trading under his own name, with headquarters at 1001-5 Market Street, Philadelphia. He will handle hosiery, underwear, dry goods, the latter made up principally of shirtings from New England mills. Herbert T. Mason, who has been identified with the knit goods trade for many years, as a manufacturer and selling agent, has become associated with the new house, where he will do all of the buying. Mr. Mason is now out in the market buying the various lines for this concern. They will use for their trademark the name "Lu-Tex," all of their goods being sold under this brand. At least ten salesmen will be employed to cover the trade in the middle West and the South.

Balbriggan Mills in Nainsook Business

Shortage of Cut and Sewed Goods Attracts New Recruits in New York State

A number of knit underwear manufacturers are considering entering the nainsook business. Balbriggan mills are prominent among those which have decided to add the cut and sewed garments to their line, and in addition to those which have definitely determined to take the step there are several mills which are still turning the matter over.

The Wyckoff Knitting Co., Perry, N. Y. started experimenting with the production of 72 x 80 nainsooks a short time ago, and has already sold a small quantity of them. The Perry Knitting Co., also at Perry, is considering the manufacture of nainsooks, and is understood to be now making up samples. Other balbriggan mills have been mentioned in the New York selling market as contemplating such a move, but confirmation of these reports is not obtainable.

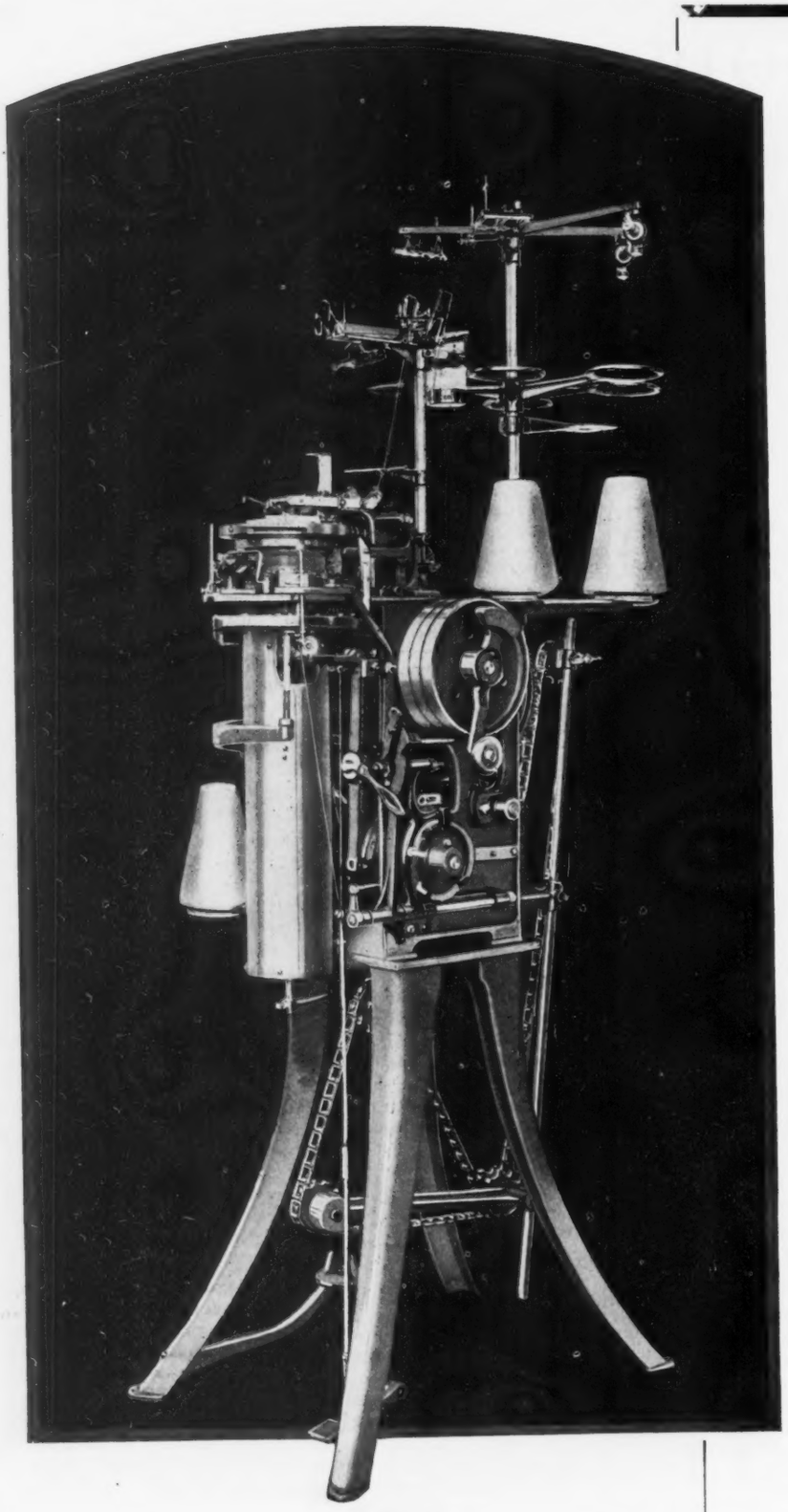
Among others, the Bailey Knitting Mills, Fort Plain, N. Y., have been reported as considering entering the cut and sewed field, but it is declared by a representative of the company that they will not take such a step. It is stated that the Bailey mills have manufactured and delivered more two piece bals this season than for any season during the last six or eight years, and that spot business has carried into July.

Market gossip has it that the Oneita Knitting Mills and Avalon Knitwear Co., both of Unita, N. Y., may enter the nainsook field, but in neither case is confirmation possible, the New York office of both concerns claiming to be ignorant of such a move.

Selling agents in New York who never before have handled cut and sewed garments are making arrangements to get into the business, and altogether the rush to get aboard a good thing is in full swing.

There are two basic reasons for this activity, of course. The principal one is the shortage of nainsooks which developed a short time ago and the resultant scramble for merchandise by buyers. Spot goods of any but the highest priced merchandise are almost impossible to obtain at this time.

Interest in the nainsook business by balbriggan mills is the result of the relatively poor business on bals during the last year or so, considering the industry as a whole, and the natural desire of manufacturers to turn to something else to keep them busy and possibly show a profit. In some cases it is understood that some bal manufacturers have been discouraged on



Write to-day for booklet entitled "A New Type of Hosiery"

This booklet will explain to you one of the most important developments in hosiery manufacture which has taken place in years.

It gives you the facts you want to know and ought to know about how the quality of hosiery can be improved, and sales increased.

Information regarding the Wildman Spring Needle Knitter will also be sent you. This machine is showing rather remarkable results for many manufacturers, in production and quality.

WILDMAN MFG. CO.
NORRISTOWN, PA.

WILDMAN
THE WORLD'S STANDARD

We have issued a new edition of the complete and informative book, "The Science of Knitting." Price $2.00.

Knit Goods Markets—Continued

the nainsook proposition recently by the extremely low figures at which nainsooks are reported to be offered for next year.

New Prices Low

Authoritative information regarding the new prices on nainsooks for 1926 is difficult to obtain. In a number of cases manufacturers are so busy with spot business that they are not particularly interested in rushing the openings. In other instances it is stated that business is being taken for delivery no farther ahead than September.

Prices have been made for regular 1926 deliveries in a number of cases, however, some of them being extremely low. It is reported that one large commission house is offering for next spring 72x80s at $4 and 64x60s at $3.37½.

Underwear Notes

Among the New York selling agencies which are embarking on the nainsook business for the first time are A. A. Smith & Son and Boyce, Wheeler & Boyce. A. A. Smith & Son have been appointed selling agents for the Hodes Mills, Inc., New York, and will also sell the product of a southern plant. Boyce, Wheeler &

Staple Hosiery Quotations

Prices printed below represent fair average market quotations on staple hosiery in the New York market this week. They apply to average quality merchandise in mill packing sold to the jobbing trade. Ranges are necessary because of variation in quality, weight and terms.

Men's

144 needle, 1 lb. transferred top, looped toe	$.92–97½
176 needle, automatic top, sewed toe	67½–70
176 needle, transferred top, looped toe	95–1.00
220 needle, combed, double sole	1.55–.160
200 needle, full mercerized, double sole	1.65–1.75
220 needle, full mercerized, double sole	1.75–2.20
176–200 needle, rayon-plaited, drop stitch (cotton top, heel and toe)	1.85
220 needle, rayon-plaited, double sole (mercerized top, heel and toe)	2.40–2.65
240 needle, rayon-plaited, as above	2.50–2.75
220–240 needle, silk and rayon twist, double sole (mercerized top, heel and toe)	3.00–3.25
240 needle, pure thread silk, 10 strand (mercerized top, heel and toe)	3.50–4.00
160–176 needle, worsted plaited over cotton, plain colors	3.35–3.50
160–176 needle, worsted plaited ingrain heathers	3.42½–3.62½

Women's

176 needle, hem top, sewed toe	87½–92½
176 needle, 1¼ lb., looped toe	97½–1.02½
220 needle, full combed, double sole	1.65–1.75
220 needle, full mercerized	2.25–2.35
240 needle, full mercerized	2.35–2.75
Alligator stitch, full mercerized	2.50–3.00
Full mercerized cross ribs	3.25–3.35
Full mercerized, ribbed-to-toe	3.15–3.35
220 needle, rayon, 3 seam back, 18–20 in. boot (combed top, heel and toe)	2.85–3.00
220–240 needle, rayon, 3 seam back, 20–22 in. boot (mercerized top, heel and toe)	3.25–3.50
240–260 needle, silk and rayon twist (mercerized top, heel and toe), standard goods	
20 in. boot	5.50–5.75
22 in. boot	5.75–6.25
240 needle, silk plaited over rayon, 20–22 in. boot (mercerized top, heel and toe)	6.00–6.25
260 needle, silk plaited over rayon, as above	6.35–6.75
200–220 needle, rayon plaited over worsted boot	6.00–7.00

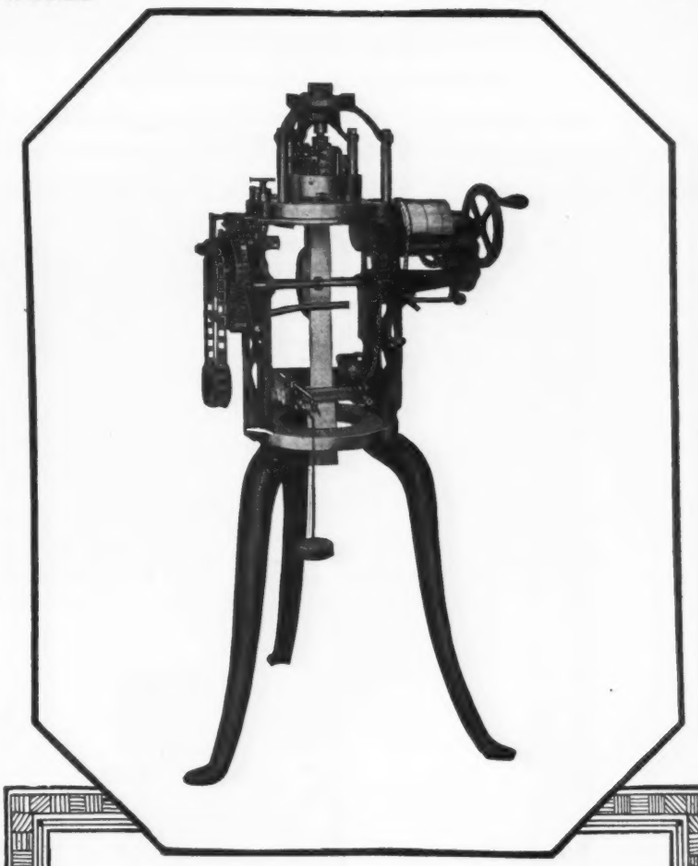
Children's

28 oz. misses' ribs (on 7; rise 5¢, fall 5¢)	97½–1.00
Boys' 3 lb. 1 x 1 ribs (on 8; rise 7½¢, fall 7½¢)	1.85–2.15
300–344 needle misses' combed (on 7; rise 7½¢, fall 5¢)	1.60–1.75
344 needle misses' full mercerized, 1 x 1 and 6 x 4 ribs (on 7; rise 10¢, fall 5¢)	2.35–2.60
300 needle misses' combed cross ribs (on 7; rise 7½¢, fall 5¢)	1.65–1.75
300 needle misses' mercerized cross ribs (on 7; rise 10¢, fall 5¢)	2.45–2.75
Children's ⅞ lengths, mercerized ribbed leg, circular ingrain rayon top (average 7 to 10)	2.75–3.25
Children's ⅞ lengths, rayon plaited over mercerized	3.25–3.75
Infants' socks, full mercerized, fancy tops	1.50–1.75
Infants' socks, all rayon	2.25–2.50
Infants' mercerized ribs	1.55–1.70

Full Fashioned

(Average quotations on dip-dyed, standard makes)

Chiffon, mercerized top, heel and toe, 20 in. boot	10.75–11.50
Chiffon, all-over silk	13.00–15.00
8–9 strand, mercerized top, heel and toe, 19–20 in. boot	10.00–10.75
10–11 strand, mercerized top, heel and toe, 19–20 in. boot	11.00–12.50
12 strand, mercerized top, heel and toe, 20–21 in. boot	12.50–13.00
10–11 strand, all over silk	15.00–17.50
10–11 strand, half hose, mercerized top, heel and toe	6.00–7.00



BRINTON RIBBERS

possess all modern improvements, including selvage welt, French welt, double knee, dogless and striping attachments, with automatic stop motions.

Built in all sizes, for all classes of rib work.

Samples and prices on request

Foreign Agents

Great Britain and the Continent:
Wildt & Co., Ltd., Leicester, England.

Australia
J. H. Butler & Co., Sydney—Melbourne.

South America
Santiago Scotto, Galeria Guemes, Buenos Aires, Argentine Republic.

China and Japan
Elbrook, Inc., 51 Kiangse Road, Shanghai, China.

H. BRINTON COMPANY
Philadelphia Pennsylvania

THE BANNER SPRING NEEDLE MACHINE

Special Announcement *to* Hosiery Manufacturers

The well known and thoroughly established "BANNER" Spring Beard Needle Machine, producing the highest quality of "BANNER" spring needle fabric, is equipped with *solid butt* spring beard needles. The old method of connecting the needle with the jack has always proven troublesome on account of more or less lost-play where the two are loosely connected.

SUPERIOR QUALITY FABRIC
FOR LADIES' SILK HOSE

HEMPHILL COMPANY

Main Office and Factory
PAWTUCKET, RHODE ISLAND

Southern Office
James Building
Chattanooga, Tenn.

New York Sales and Show Room
350 BROADWAY, NEW YORK

Philadelphia Office
Colonial Trust Bldg.
Philadelphia, Pa.

Knit Goods Markets—Continued

Boyce will sell nainsooks for their own account.

* * *

The High Rock Knitting Co., Philmont, N. Y., is reported to be considering entering the balbriggan business. Reports in New York are to the effect that the company may purchase another building for this purpose.

* * *

Much interest is shown in the market in the plan of the Avalon Knitwear Co., Utica, N. Y. to operate a branch mill at Anniston, Ala. To some this appears to be the forerunner of other similar announcements.

* * *

Decision reached at the meeting of balbriggan manufacturers in Utica last week to open lines for next spring the week of July 8-15 was about as expected. Salesmen for a number of lines are expected to leave for their teritories Sunday night.

* * *

Jobbers continue to press for lower prices on next year's light-weights and sellers are firm in the declaration that lower prices cannot be made. Less than the usual amount of gossip regarding pre-opening business is heard, but sizable open orders are known to have been booked on at least one or two lines of men's ribbed goods.

* * *

Raw material uncertainties may have the effect of limiting initial business on bals. In the opinion of experienced mill representatives volume may not be looked for until September and October, instead of in July and August, as in the good old days.

* * *

One or two bal mills will show for next season for the first time samples of flat knitted garments for men, in both suits and shirts and drawers, with horitzontal stripes in rayon.

* * *

The general market is quiet, with the light-weight season practically over. A scattering of good duplicates on heavy-weights is reported, however which means that their position is growing stronger each week.

Quiet Succeeds Rush in Bathing Suits

Waiting for 1926 Prices—Lumberjacks May Supplant Cricket Sweaters for Fall

A quiet week before July 4th is always expected in knitted outerwear sold to the jobbing trade, and the week just closed has been no exception. Principal activity in the selling market consists of discussion of the openings of lines of bathing suits for next year.

Formal action by important mills is expected immediately after the Fourth. Practically all lines were understood to have been ready this week, and some goods are reported to have been shown quietly, with indifferent results. The jobber has been concentrating so heavily on his rush demands for spot goods that he has not so far been particularly interested in next year's deliveries, according to sellers.

No definite information regarding 1926 prices on bathing suits has become available. It is general opinion in the selling market that new quotations will average about the same as those prevailing, with slight reductions here and there not impossible.

Important selling agencies which have all along been strong boosters for the cricket sweater for fall are now beginning to change their tune somewhat. Demand for the so-called lumberjack seems to be increasing steadily, and sellers express the belief that this type may displace the cricket for fall. Lumberjacks are being made in a variety of effete designs and color combinations which make the name somewhat ridiculous.

Shakers continue to dominate what business is coming in on men's staples.

OBITUARY

E. E. Gambrill

Following a sudden illness of only a few hours E. E. Gambrill, cotton mill executive of Bessemer City, N. C., died Saturday, June 27, in a Gastonia hospital where he had been taken for treatment. He became ill while about his duties at his office on Friday. Mr. Gambrill went South several years ago to represent his brother's interest in the Gambrill Mills, at Bessemer City, being general manager of that plant. He was a native of Havre de Grace, Md.

Joseph J. Heap

Joseph J. Heap for a number of years in charge of the spinning for the Suffolk Knitting Mills, Newton Lower Falls, Mass., met his death while in an automobile accident in Waltham, Mass., on June 9. Mr. Heap was well known among textile mill overseers and well liked by all who knew him. He was buried from his sister's home in North Billerica.

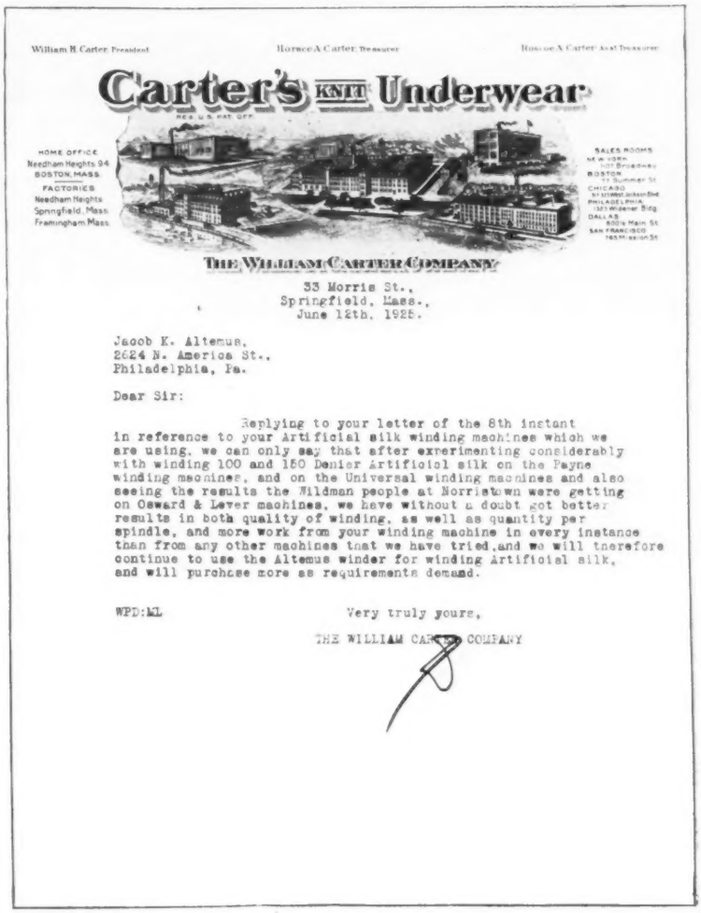
Timothy E. Moore

Timothy E. Moore, foreman of the assembling department of Johnson & Bassett, Inc., Worcester, Mass., for the last five years and previous to that time overseer of the carding and spinning departments of the estate of Josiah Perry, Inc., Dudley, Mass., for 10 years, died at his home in Webster, Mass., on June 24, aged 56 years. He leaves a widow, three sons and two daughters.

Harry S. Van Valkenburg

Harry S. Van Valkenburg, superintendent of the office department of the Lion Mfg. Co., St. Johnsville, N. Y., died at his home following a short illness. He was 65 years old and was one of the oldest employes of the Lion company.

Read this and BE CONVINCED


William H. Carter, President — Horace A. Carter, Treasurer — Roscoe A. Carter, Asst. Treasurer

Carter's KNIT Underwear

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SALES ROOMS NEW YORK BOSTON CHICAGO PHILADELPHIA DALLAS SAN FRANCISCO

THE WILLIAM CARTER COMPANY

33 Morris St.,
Springfield, Mass.,
June 12th, 1925.

Jacob K. Altemus,
2624 N. American St.,
Philadelphia, Pa.

Dear Sir:

Replying to your letter of the 8th instant in reference to your Artificial silk winding machines which we are using, we can only say that after exerimenting considerably with winding 100 and 150 Denier Artificial silk on the Payne winding machines, and on the Universal winding machines and also seeing the results the Wildman people at Norristown were getting on Osward & Lever machines, we have without a doubt got better results in both quality of winding, as well as quantity per spindle, and more work from your winding machine in every instance than from any other machines that we have tried,and we will therefore continue to use the Altemus winder for winding Artificial silk, and will purchase more as requirements demand.

WPD:KL

Very truly yours,

THE WILLIAM CARTER COMPANY

The above letter sounds as though we wrote it,—yet it merely voices the opinion of a number of users of

THE ALTEMUS 2-B WINDER

We suggest that you write for Literature and full details, or better still, ask for a

SAMPLE WINDING.

JACOB K. ALTEMUS

American below Lehigh Ave., Phila, Pa.

This Is One of the Most Important Announcements Ever Made to Textile Executives

Beginning with the issue of June 13, 1925, a new department, known as the *Textile World Analyst,* was inaugurated as a regular feature of every issue of TEXTILE WORLD.

In this department the future supply, demand and prices of cotton, wool, silk, and their products are being forecasted on an entirely new basis of business analysis.

For months past Dr. Lewis H. Haney, Director of the Business Research Bureau of New York University, in co-operation with TEXTILE WORLD'S Editors, has been working out and testing combinations of statistics bearing on textile market trends. This research has been the most extensive and thorough of its kind ever conducted. It has resulted in the discovery of some entirely new combinations of factors which promise much greater accuracy in forecasting. These new principles were applied over a long period of past years and tested out to be remarkably accurate.

We believe there is no other organization in the world which has such extensive facilities as TEXTILE WORLD for the collection and compilation of data concerning textiles. There is no statistician who combines academic and practical principles in better proportion than Dr. Haney. His work in the iron, steel and other industries carries the highest endorsement. He will build through the *Textile World Analyst* a similar reputation in our industry.

This week's *Textile World Analyst* is devoted to cotton, including yarns and goods. Last week general business conditions and their direct bearing on textiles and textile securities were considered. The week before the *Analyst* forecasted the immediate future of silk, including yarns and goods, and in the previous issue wool and its products were dealt with. This rotation will be maintained as new statistics and information become available. For some time to come, and possibly permanently, the *Textile World Analyst* will be printed with a colored border so it will be readily identified among the pages of TEXTILE WORLD.

Every prudent executive must form his own conclusions from the best sources of facts and opinions available, and we are confident that no other service takes into consideration more basic facts or draws from them more reasonable and definite conclusions than Dr. Haney is able to offer through the *Textile World Analyst.* It is a business barometer which should be consulted weekly by every key executive.

The Publishers of
TEXTILE WORLD

Textile World Analyst

A weekly analysis and forecast by Dr. Lewis H. Haney, Director, New York University Business Research Bureau

SUMMARY — COTTON

1. Though the spread between raw cotton and cotton textiles is still too small, the situation showed some improvement in May.

2. Stocks of cotton at mills and warehouses are small in comparison with consumption, which tends to make the market firm.

3. The statistical position of raw cotton is highly uncertain, but the present outlook is for prices not far from present levels. (This is a weather market with the Texas drought the chief factor.)

4. Spindle activity will probably show further curtailment.

5. No considerable or sustained turn for the better in yarn and gray goods prices can yet be foreseen, but any further decline will be small. Stabilization, based on equilibrium between demand and supply, seems near. Recent small advances are due to lower crop estimates.

Price Spreads Continue Unfavorable to Manufacturers.

A glance at the first chart (Fig. 1) shows that since 1921 the prices of raw cotton, cotton yarn, and cotton cloth, have spread apart like a fan. Raw cotton has risen to a greater extent than has yarn or cloth, thus narrowing the spread between the raw material and finished products.

The prices shown are those compiled by the TEXTILE WORLD. The curves are based on the average for the year 1921 as 100 per cent. They show what every textile man knows, namely, that raw cotton is high compared with yarn and cloth, that yarn is high in comparison with cloth, and that cloth is too low relatively to yarn and raw cotton.

The high raw cotton during the first half of 1924, while yarn and cloth were low in comparison, was reflected in low earnings for cotton mills which developed in the middle of that year. In fact, when comparison is made with 1921 and 1922, the situation has been bad for cotton manufacturers ever since the beginning of 1923.

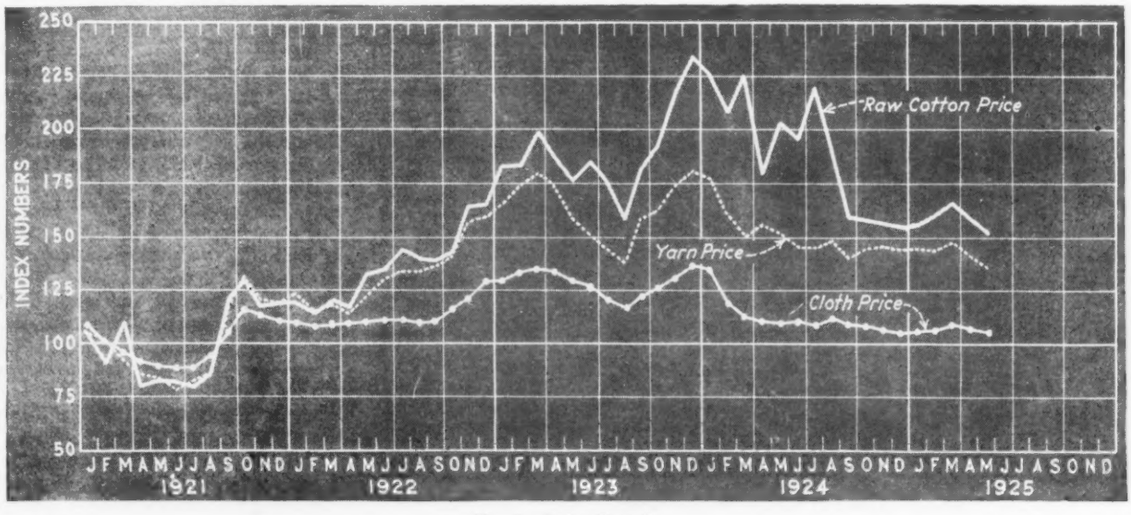
Since October, 1924, however, the situation has not been quite so bad and in May it was probably better than at any time since 1922 with the exception of only a few months. In May raw cotton declined somewhat more rapidly than yarn or cloth. Moreover, a more normal spread between yarn and cloth has developed.

Obviously what is needed is a further decline in raw cotton. At least this item should be brought into line with the price of cotton goods. It has been impossible to mark the goods up in proportion to the cost of raw material and it seems fair to say that cheaper raw material is the thing most to be desired in the cotton textile industry. Since buyer resistance holds goods prices in check, and since the outlook for increased production of raw cotton is good, the *ultimate* outcome will probably be a small reduction in raw materials sufficient to bring the raw cotton price curve down to a relationship with the goods price curve, such as existed in the first quarter of 1922 (see Fig. 1).

Raw Cotton Stocks Small

In Fig. 2 are shown the trend of cotton mill consumption and stocks of raw cotton held in domestic mills and warehouses. The mill consumption curve gives an index of the domestic demand for raw cotton. It is adjusted so as to eliminate the ordinary seasonal changes and is plotted as a three months moving average. Thus arranged, it furnishes an excellent basis for judging the adequacy of the stocks. If stocks are low in comparison with the consumption curve, the demand and supply situation is to that extent strong.

The heavy dotted line shows the total stocks of raw cotton in mills and warehouses at the end of each month. The light dotted line represents the trend of mill stocks and the heavy horizontal line drawn through the mill stocks curve represents the average percentage which


250
225
200
175
150
125
100
75
50
INDEX NUMBERS
Raw Cotton Price
Yarn Price
Cloth Price
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1921
1922
1923
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1925

Fig. 1. Price Spreads

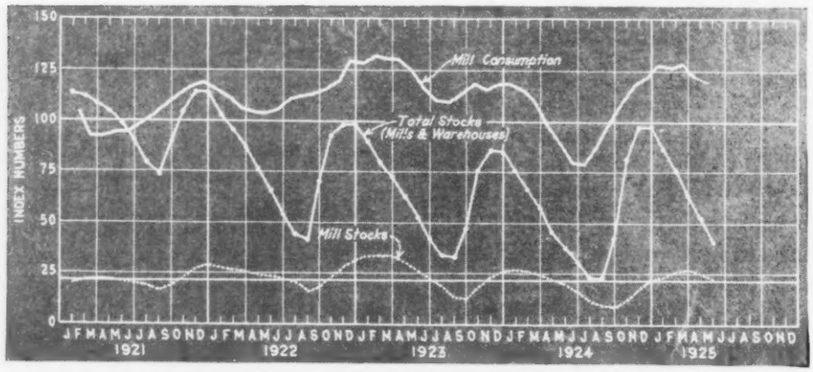
Mill Consumption
Total Stocks (Mill's & Warehouses)
Mill Stocks
INDEX NUMBERS
150
125
100
75
50
25
0
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1921
1922
1923
1924
1925

Fig. 2. Mill and Warehouse Stocks of Cotton Compared with Mill Consumption

mill stocks were of the total stocks in 1921.

The conclusions based on a study of the data presented in Fig. 2 are as follows:

(1) Mill consumption is at a high level, quite similar to that reached in the spring of 1923, but is declining.

(2) Total mill and warehouse stocks are the lowest in comparison with mill consumption which have existed at this time in any of the years covered.

(3) Mill stocks are about average for the period and are neither excessive nor too small.

(4) Insofar as the immediate domestic demand and supply situation goes, firm raw cotton prices are indicated. (This does not take into consideration the foreign situation nor the possibilities of the new crop.)

The Statistical Position of Raw Cotton

While little value can be attached to the estimates of cotton production made at this time, it may be worth while to consider the general statistical situation briefly.

The best guesses concerning the new American crop run in the neighborhood of 14 million bales. The acreage is 4 or 5 per cent greater than last year, but the drought in the Southwest and the probability of boll weevil damage have led to reduced estimates as to the yield per acre. It seems possible that the crop may run anywhere between 13½ million bales to nearly 15 million bales. The figure mentioned appears to be as reasonable as any.

Exports for the crop year now nearly ended will be nearly 8.4 million bales and domestic consumption will run in the neighborhood of 6.2 million bales, a total of about 14½ million bales. This will mean a carryover at the end of the season which will probably be a little smaller than last year's.

The world situation, however, may not be quite so strong. Exports have been very large and world stocks, both total and American cotton, are larger than in the last two years. The total world cotton crop was considerably larger last year than in recent years and efforts to increase production in foreign countries continue. It is entirely possible, therefore, that our exports from the new crop may not be so large as this year. The probability of more stable exchange rates supports this conclusion.

If crop conditions improve and exports fall off, raw cotton may easily fall to 20c. or even a little lower. If the condition of the new crop declines further and foreign demand holds up, the price may easily rise to 25c.

The best guess at present seems to be that the price of raw cotton will not vary much from the present level in the near future, and that the probable range lies between 20 and 25 cents.

This is frankly a guess, and it is not believed that any reliable estimates can be made for another month or two.

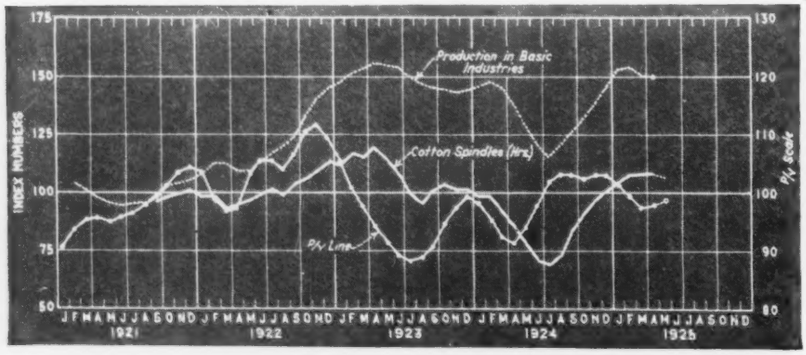

Fig. 3. Trend of Cotton Manufacturing

Trend of Cotton Manufacturing

The heavy solid line shown in Fig. 3 represents active spindle hours. It is a 3-month moving average. The curve is now tapering off after a long rise, reflecting the current tendency toward curtailment in cotton mill operations.

The dotted line is the Federal Reserve Board index of production in basic industries. It is also declining and turned down a little in advance of spindle hours.

In general the two preceding curves turn up or down at about the same time, but the spindle hour curve has held at a lower level than the other during the last two or three years owing to the relatively depressed condition of the cotton textile industry.

The third curve is the main forecasting line, the "P-V line," which usually leads the others by several months. After a decline at the beginning of the year, it has recently turned upward slightly. *It indicates that a decline will occur in spindle activity during the next month or two which will probably be followed by improvement.*

On the whole, a rather stable condition is forecast for the near future.

Cotton Yarn Barometer Trend Is Slightly Downward.

Fig. 4 deserves especially close attention. At the top is shown the trend of the TEXTILE WORLD index of cotton yarn prices. In the lower section are shown two curves, one of which (mill consumption) may be considered as a general index of cotton textile production, while the other (cotton goods barometer) indicates the demand for cotton goods, being based on new business in gray goods and fine goods. Thus the two curves are in a broad general way indicative of demand and supply. As shown, they are based on the average for the last four years. Consequently when the mill consumption curve lies over the cotton goods barometer, it means that textile production is in excess of the demand for cotton goods, judged by the average of the last four years.

Whenever production (the dotted line) is much over demand (the goods barometer) the price of yarn is apt to be weak and this is especially true when the two curves are diverging considerably. For example, note the situation shown for the last quarter of 1921, the second quarter of 1923, and the first quarter of 1924.

The recent situation is as follows: From September, 1924, to February, 1925, the production curve was above the demand curve. It was not much in excess, however, and very little divergence was shown. On the whole, the two curves ran nearly parallel. Accordingly, while the price of yarn was weak during this period, it showed relatively little change, only a very slight decline being registered.

In February the demand curve (goods barometer) rose above the production curve (mill consumption) and this situa-

tion was followed by a small upturn in yarn prices in March. More recently demand has fallen below the production level again, and prices have been declining as a result.

The conclusion to be drawn from this analysis is that *no real advance in yarn prices is to be expected until either (1) mill consumption is curtailed further or (2) the goods barometer (demand) rises. Mill consumption is on the down grade, but unfortunately the demand curve is also declining. A turn for the better, therefore, can not be announced yet. The most that can be said is that the divergence of the production and demand curves is relatively small, which tends to the conclusion that not much lower yarn prices are in prospect. In fact, signs of stabilization may be seen in the fact that the production and demand curves have held nearly steady in their relation to one another for several months.*

The Gray Goods Status

Fig. 5 illustrates the trend of (1) the TEXTILE WORLD index of gray goods prices, (2) the "goods barometer" prepared by the New York University Bureau of Business Research, and (3) wholesale dry goods sales as reported by the Federal Reserve Board, adjusted to remove seasonal variation. The goods barometer is based on orders and sales covering gray goods and fine cotton goods.

It will be noted that at present the goods barometer is moving downward, and a little study of Fig. 5 will show that in the past it has anticipated changes in the price of gray goods by from one to three months.

Wholesale dry goods sales have also sometimes anticipated the trend of gray goods prices, though this is not always the case. At present such sales are holding about level and are in good volume considering the season. Some decline, however, will probably be registered in May and June figures.

The average price of gray goods in May was considerably lower than in April. This item will continue to reflect the position of raw material. Certainly no upturn is yet indicated by the statistical position. It may be noted, however, that in view of the fairly high level of the goods barometer and of wholesale dry goods sales, not much further decline in gray goods is to be expected. This conclusion is confirmed by the fact that raw cotton seems likely to hold at present levels for a considerable time at least.

The chief weakness in gray goods lies in the demand side. Neither stocks nor production rates seem excessive. Moreover, May imports of unbleached cotton cloth were only 3.9 million sq. yds. against 7.9 million last year.

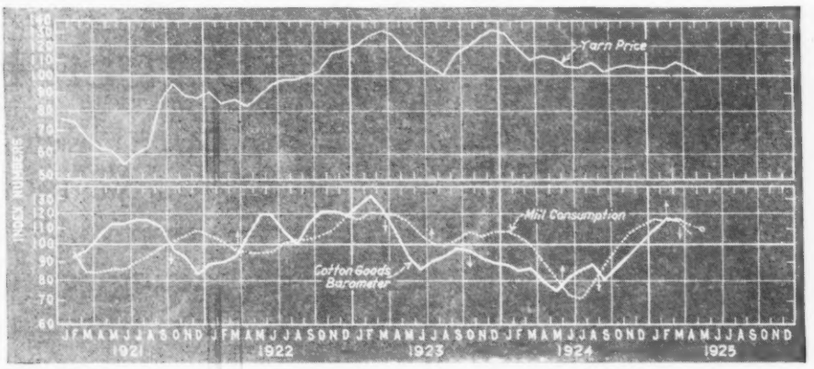
Yarn Price
Mill Consumption
Cotton Goods Barometer
INDEX NUMBERS
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1921
1922
1923
1924
1925

Fig. 4. Cotton Yarn Barometer

The Analyst Question Box

Dr. Haney will be glad to reply privately to any questions regarding the conclusions reached by him in the Textile World Analyst or respecting any details in the compilation of the charts included in the forecast. From time to time certain of these questions and the replies thereto will be published in this space, it being understood that the identity of the inquirer will be kept confidential. Questions should be addressed to the Editor of TEXTILE WORLD, 334 Fourth Ave., N. Y.

Editor TEXTILE WORLD:

I have read your interesting forecast included in Dr. Haney's work in the "Analyst" of June 13.

In order to a better understanding of diagram 1, I would like to raise the following questions:

Question 1. What is the basis of the index figure for raw wool consumption?

Question 2. Does Dr. Haney take into account the fact that approximately 20% of wool consumed is not reported?

Question 3. By "wool consumption" does Dr. Haney mean wool in the aggregate, "grease, scoured, pulled" or this general aggregate reduced to a grease basis.

Question 4. By "woolen spindles" does Dr. Haney mean woolen spindles in the manufacturing sense or wool spindles covering both worsted and woolen?

Question 5. Is Dr. Haney aware of the fact that the American Woolen and one or two other large organizations while reporting on machinery statistics report neither wool stocks nor consumption? This has a tendency to throw either wool spindles 15–20% too high or else wool consumption 15–20% too low.

Question 6. Woolen spindles for April were reported 81.2% active and worsted spindles 63.5%. How then is the index number in diagram 1 of approximately 115 explained.

W. H. BUTLER.

Your questions may be answered in order:

1. The basis for the index of raw wool consumption is the figure for the total quantity of raw wool entering into manufacture during the month, as reported by the U. S. Department of Commerce. The figure is adjusted for seasonal variation to show the cyclical trend.

2. Yes. The figure of the Department of Commerce covering raw wool consumption is assumed to be 81.44% of total consumption.

Please note that index numbers (or relatives) are used in the graphs, hence the adjustment of the data for the missing 18—19%, being a constant, does not change the "index" of consumption. The Bureau assumes that 81.44% of the total wool consumption is representative of the wool industry. A sample, no matter what proportion it may be of a total, is sufficient for index number purposes provided that such sample is representative.

3. "Wool consumption" in the aggregate. It is reduced to a grease equivalent basis.

4. By "woolen spindles" is meant woolen spindles in the manufacturing sense, as differentiated from "worsted spindles."

5. Yes. If actual (absolute) figures were used in comparing consumption with spindle activity, allowance would have to be made for such differences. Since index numbers are used, the differences, being constant, do not affect the trend, and the curves can be compared.

6. The index of woolen spindles was approximately 115 in March and 113 in April. This means that the percentage active in April was 113% of the average percentage active in 1921. Woolen spindles for April were reported 81.2% active. This figure was reduced to an index number by dividing by 72 (the average for 1921). The Bureau puts all index numbers on a 1921 base unless otherwise noted.

LEWIS H. HANEY.

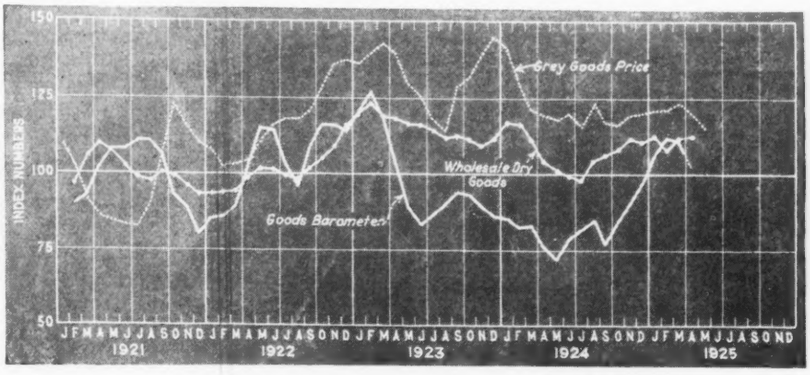
Gray Goods Price
Wholesale Dry Goods
Goods Barometer
INDEX NUMBERS
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1921
1922
1923
1924
1925

Fig. 5. Gray Goods Barometer

Bigger Production—

THE "Reading", over a period of years, has been constantly improved to meet the most exacting requirements of manufacturers of ladies' fine silk stockings. The new chain drive assures bigger production and finer fabric. Also, wear and tear on both motor and machine are reduced to a minimum.

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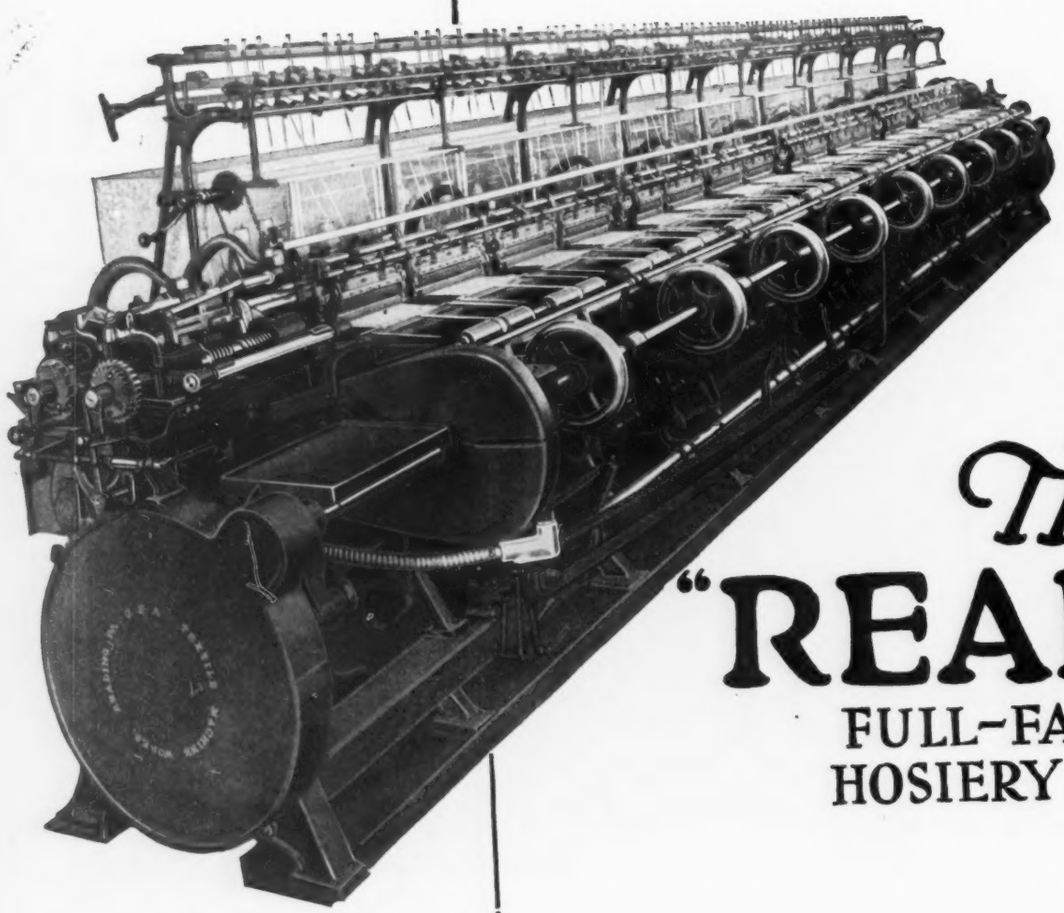

The "READING"
FULL-FASHIONED HOSIERY MACHINE

SILK GOODS MARKETS

Price Advances on Fall Silks Considered

Strength of Raw Market May Force Revision of Opening Fall Prices

There is a good chance as silk manufacturers view it that the recent strength in the raw market may force revisions in the prices named on many fall lines. Since new season Japan silk first began to be quoted about ten days ago, good sized buying has developed and the market in Japan and here has advanced 30 to 40c a pound. Actually between the low point at which several importers were offering in volume two weeks ago and the level today the difference is closer to 50c. When it is realized that the extreme fluctuation in the raw market has been only about 80c over the last ten months, it can readily be seen that the opening quotations of silk manufacturers may have to be raised 5% or so to conform to their higher costs.

Many large cutting up trade buyers were apparently alive to this possibility this week with the result that they were shopping around the market and endeavoring to place substantial business for July and August deliveries on the crepe satins, satin Cantons and some of the ribbed numbers. While willing to place advance orders these users were not in any sense of the word bidding for their materials. As a matter of fact according to the average medium sized manufacturer the price situation at the present is much more difficult than at any time during the year. Buyers are willing to place business but there is more definite resistance to higher prices than at any time since last October.

The situation at the present is complicated by the fact that several of the larger houses and quite a number of the smaller are pretty well covered on their raw silk requirements for a couple of months to come. This gives them a distinct edge in their favor when it comes to competing for sales with the great majority of manufacturers who it is believed have been waiting patiently but a bit too long to cover their fall needs. It is likely to make competition for fall business somewhat keener than for spring and summer when all were more or less on an even basis.

Current sales are reported a bit quieter with a fairly good demand present, however, for many of the summer qualities and the prints. Certain types of prints it is understood have been moved at concessions in the last week or two. Cutters in many cases have been waiting for just such an opportunity and such small quantities as the silk houses have been willing to clear out have found a ready market. Silk houses while making certain concessions to clear out stocks in a few numbers have not left everything to the buyer and force the acceptance of their terms such as the taking of a range of color patterns. Stocks of broadcloths are pretty well exhausted according to the leading sellers of this type of merchandise and the bargains that dress houses hoped to obtain have not made their appearance.

SILK SITUATION AT A GLANCE

PRODUCTION:	Increasing once more.
DEMAND:	Good for fall fabrics, quieter for staples.
STOCKS:	Rather small.
RAW SILK:	Stocks unchanged; Prices higher.
SENTIMENT:	Look for large volume of fall business.

ACTIVE SILK STOCKS ON NEW YORK STOCK EXCHANGE
(Week ending June 30)

1925 High	1925 Low	Stock	Sales	High	Low	Last
47½	31½	Century Ribbon Mills	200	36⅝	36½	36⅝
34⅛	18¾	Julius Kayser & Co.	3,600	32½	30	30
37½	22½	H. R. Mallinson & Co.	6,200	25⅞	24⅞	25
24¾	17½	Van Raalte	100	20	20	20

Canton Shipments Shut Off

PRESS reports of some improvement in the Chinese situation in the Shanghai district did not help the exporters in Canton or rather such exporters as are left in Canton. Most raw silk houses with offices there have received word that their representatives have left for Hong Kong. The situation in Canton continues extremely critical with the foreign settlement of Shameen fortified and barricaded in every conceivable way and fresh reinforcements of sailors and marines arriving.

No Canton silk is being shipped or likely to be shipped for a while yet. Exporters who have arrived in Hong Kong are hopeful of getting some silk off from that port but there is of course the difficulty of getting the silk there. Around the New York market Canton prices are more or less nominal with little silk offered. Such quantities as are already on vessels and on the way are practically all contracted for. The Empress of Asia which sailed from Canton around June 20 was reported delayed in Hong Kong by the lack of a crew. A Russian crew is being obtained to permit the sailing of the vessel.

NEW BEDFORD, MASS. The National Spun Silk Co. held their annual outing and picnic for employes last week at Silvia Grove. An unusually good time was enjoyed.

PHILADELPHIA, PA. The Berkley Knitting Co. has purchased the plant, equipment, good will and business of the Royal-Ascot Knitting Mills Co., in Germantown, according to Joseph C. Wollman, president of the Berkley company. The newly acquired plant has an equipment of 300 knitting machines for the production of sweaters, neckties, mufflers, etc. It is said that Bernard Robbins, president of the Royal-Ascot company, will take a vacation but his plans for the future have not been announced. He may join the Berkley organization, according to rumors.

SUMMARY OF SILK CABLES

Best No. 1/X-Yokohama.....1980 Yen
Exchange at 3 m/s.....41¾
Cost C. I. F. New York.....$6.53

New season silk became the generally accepted basis for quotations in Yokohama last week with new crop silk for prompt shipment freely offered in New York. The Yokohama market followed up the strength noted at the end of the previous week and by the close prices had attained a new high for the season. Best No. 1/X from 1930 yen advanced to 1980 yen and other grades were proportionately higher. For three days an unusual degree of activity was noted with about 4,200 bales bought but later the market became quieter. Yen exchange was stronger advancing to 41¾. The Canton market was nominal due to the utter impossibility of shipping any silk from that port with the situation as it is. Exporters are endeavoring to begin shipments from Hong Kong.

Millinery Trade Wants White Ribbons

Good Orders Taken for White Satins, Failles, and Beltings—Cutters are Sampling

The ribbon market was reported as fairly active although the Fourth of July holidays interfered with business to some extent. Few retail buyers were around the market, but despite the absence of this important factor, houses continued to sell fairly well in their show rooms. Retail buyers are expected in town starting the second week in July to see advance offerings of fall novelties. Mail order business, however, comes in all the time in good volume making up for their absence.

The millinery trade was showing considerable interest in all ribbon qualities as expected by sellers. Over the last few weeks their buying has been for the most part in the whites such as the satins, moires, belting, and faille qualities. Cutters are understood to have been sampling for the most part lately and several houses report a good inquiry from this source for the pansy and purple shades.

Raw Silk Strong

Advances Sharply in Response to Stronger Cables

Raw silk prices in the local market were advanced rather sharply last week in sympathy with the rise in Yokohama. Importers stated that sales were active through the first half of the week and the covering against these sales found the market abroad sensitive to the buying that made its appearance. Manufacturers for the most part have been looking for lower prices around the end of June and the first part of July.

While buyers were not inclined to place future business at the top of the advance, there was quite a bit of necessitous buying on the part of mills. The market for Japans was less active but could not be said to be dull. Cantons jumped in even more sensational manner than the Japs. Offerings of Canton silk were few and dealers and manufacturers were bidding for any parcels that were for sale. At the end of the week $6.00 a pound was offered for New Style 14/16 without finding any sellers. Prices are as follows:

(90 days basis.)

Japan Filature	Gd. Double Extra.	13/15	$6.85
"	Double Extra A...	"	6.70
"	Double Extra B...	"	6.65
"	Best X.....	"	6.60
"	X	"	6.55
"	Best No. 1/X.....	"	6.50
Canton Filature	New Style.....	14/16	6.10 (nom)
"	New Style.....	20/22	5.30 "
Italian	Grand Extra Classical....	....	7.00
Tsatlee Reeled	"Blue Dragon & Flying Horse".....	....	5.10
Tussah Filature	8 cocoon.....	....	3.25 (nom)

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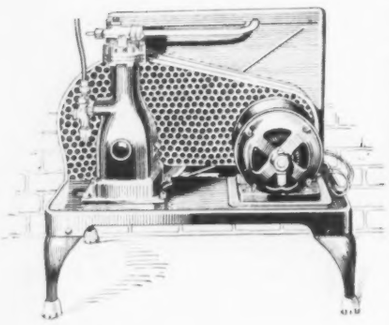

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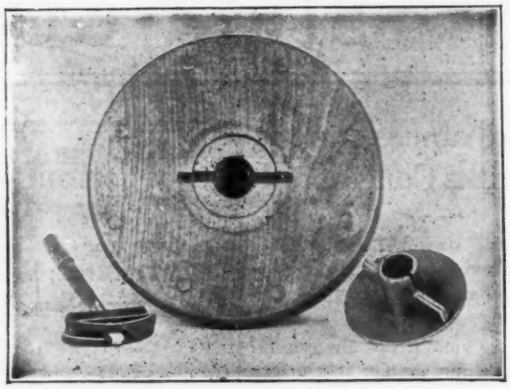

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The Head Cannot Turn or Fly Off

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COTTON GOODS MARKETS

Market Still Spotty but is Headed Right

Bright Spots Seem Brighter—Amoskeag Announcement Significant—New Spring Lines

Spotty conditions persist, but the market seems definitely trending toward improvement. Volume on gray goods this week was perhaps not as large as that of last, and nothing like that of the big week two weeks ago. The popular numbers of print cloths are very firm at the advance that has been recorded, and they are in one of the strongest positions in recent years. Volume has been restricted during the last two weeks by mills' refusal to take business at old prices.

Broadcloths have staged a really remarkable revival which has been accompanied by a sharp jump in prices. Light sheetings have moved well in sections of the market, though heavier weights do not appear materially improved. Favorable comment is general regarding the new prices on wide sheetings, sheets and pillow cases, and it is understood that jobbers and retailers, as well as mills, consider them cheap.

Advances in bleached goods have been forced by the strengthening in gray goods. Good spot demand continues for chiffon voiles, striped broadcloths and printed rayon and cotton crepes. Heavy goods as a class show no improvement, and staple colored goods are probably the weakest spot in the market.

The Novelty Trend

Much interest attaches to the announcement this week of the largest manufacturer of ginghams in the country that new lines for spring are so styled as to remove them from the gingham classification. It is significant that this enormous production of low-priced goods should be turned over to fabrics of a more or less novelty nature, especially in view of the fact that the mill in question has been strongly opposed to a move of this character.

Leading lines of dress goods for spring have been shown, all stressing the novelty angle. Primary market merchants seem reconciled to the fact that, for the time being, at least, women will not wear gingham as a style proposition, and that their use will be confined to house dresses, etc.

The raw cotton situation still presents many perplexities. The idea has become fixed that, regardless of what may eventually happen, lower prices on cotton are not likely during the immediate future, and this is largely responsible for the improvement that has taken place in print cloths. Advocates of 20c cotton no longer seem sure of their position; majority sentiment continues to hold that the new crop will probably average 22-23c, with probable fluctuations between a range of 20-25c.

Comparative Quotations

	July 1	June 24	July 2, 1924
Spot Cotton, New York.....	24.70¢	24.20¢	29.90¢
Print Cloths:			
27- in., 64x60, 7.60 yd.....	6⅜¢	6¼-6⅜¢	6¾¢
38½-in., 64x60, 5.35 yd.....	9¼-9½¢	9-9⅜¢	9¢
39- in., 68x72, 4.75 yd.....	10¼¢	10⅛-10¼¢	10¢
39- in., 72x76, 4.25 yd.....	11¼¢	11-11⅛¢	11⅛¢
39- in., 80x80, 4.00 yd.....	12⅛-12¼¢	12¢	13¢
Brown Sheetings:			
36- in., 56x60, 4 yd.....	9¾¢	9¾¢	10⅞-11¢
36- in., 48x48, 3 yd.....	12½¢	12½¢	13⅝-13¾¢
37- in., 48x48, 4 yd.....	9¼¢	9⅛-9¼¢	10⅜¢
Pajama Checks:			
36½-in., 72x80, 4.70 yd.....	10¼¢	10¢	11¢
36½-in., 64x60, 5.75 yd.....	8¼¢	8¢	9¢
Drills, 37-in., 3 yd.....	12½-12¾¢	12⅛¢	13⅜¢
Denims, 2.20s.....	*18¾-19¢	*18⅜-19¢	*21-24¢
Tickings, 8 oz.....	23-23½¢	23-23½¢	*24½-26¢
Standard Prints.....	9½¢	9½¢	9¾¢
Eastern staple ginghams, 27-in...	11½¢	11½¢	*12½¢

* Nominal.

Cotton Goods Notes

The Amoskeag Mfg. Co. announced this week the production of a line of novelties which means a radical change in the character of its product. The new goods are entirely outside of the gingham classification, they are entirely new in construction and a new soft finish has been adopted. They will be offered under individual trademarks. Entirely different from anything heretofore produced by the Amoskeag, the new lines will contain sport stripes, roman stripes, all-over weaves in stitch, lace and small dobby decorations, shaded ombre plaids and overchecks, etc.

* * *

Amory, Browne & Co. are showing new lines of novelty wash and dress fabrics, for spring, 1916, which fully sustain the reputation of this house as a leader in the field of design. Standard branded lines are offered not to cost over fall prices, final prices to be made in September, as usual; April 1 dating is being given. New designs in Gilbrae, Parkhill, Toile du Nord and Kalburnie are being shown, and True-Sport Cloth, a new cloth for children's suits, is being offered for the first time. "Ginghams" has been dropped entirely. The new lines forecast a continuance of the vogue for high colors; considerable raised decorations are used and novelty stripes appear frequently. Increased employment of rayon features the new dress goods lines of the company.

* * *

The Lorraine Mfg. Co. is showing new fabrics for spring, 1926, emphasizing rayon alpacas under the trade mark "Lorrayon." Light colored grounds are frequently employed, and stripes are shown in large numbers. Additions will be made to the line from time to time as the season progresses.

* * *

Bleached goods prices have generally been marked up ¼c for 4-4 goods.

* * *

Taylor, Clapp & Beall are introducing Lonsdale Rayon, a new lightweight cloth particularly soft in feel. The cloth is intended for practically all cutting-up trades, such as underwear, waists and dresses.

* * *

Robert E. Godfrey, for many years identified with the cotton goods converting trade, has become associated with the Max Schwarz Textile Corp. as a general converter and associate. Mr. Godfrey has been in the market for about 32 years. After associations with several houses he formed the Warner-Godfrey Co. in 1902. In 1923 this partnership was dissolved, and since that time Mr. Godfrey has been operating the Robert E. Godfrey Corp., which is now liquidated.

* * *

Lennox, Hultberg & Co. have added James M. Farrar to their organization. Mr. Farrar has been with Clarence Whitman & Sons, Inc., for several years in the blanket department, and he will merchandise a new line of blankets and bedspreads for Lennox, Hultberg & Co. This concern has specialized in sheets and pillow cases, but has recently expanded its business to include jacquard turkish towels as well as the above named merchandise. They are marketing the product of the Fairlawn Textile Corp., Pawtucket, R. I., manufacturers of Hope and Lonsdale pillow cases, and of the R. L. Kaler Co., Philadelphia, manufacturers of jacquard turkish towels and sets.

* * *

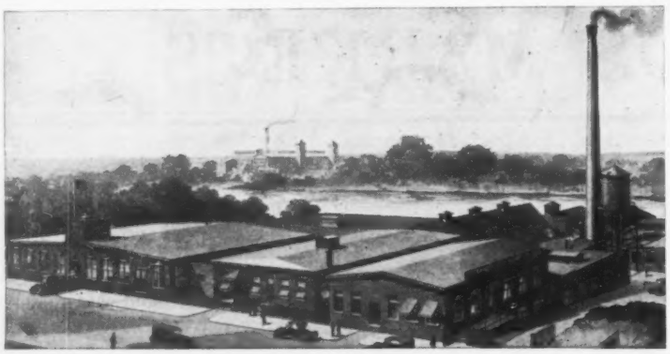
Arthur Sylvester and William T. Ketcham have formed a partnership to continue the cotton goods commission business of Clarence L. Collins & Co., under the firm name of Sylvester & Collins, at 27 Thomas Street, New York. The co-partnership of Clarence L. Collins & Co., consisting of Arthur Sylvester, William T. Ketcham, Wm. H. Dempsey and the estate of Clarence L. Collins, special partner, expired by limitation June 30.

MANCHESTER NEWS BY CABLE

Manchester, Eng., July 1 (Special Cable to TEXTILE WORLD).—Trade position remains discouraging with spinners and manufacturers still losing ground. Rather more disposition noted in some quarters to admit that the recent rise in raw cotton rates is justifiable. Operators are waiting anxiously for Bureau crop report. Cloth inquiry for India is broadening and rather more sales in light goods. Looms are standing idle because suspension of shipments to China. Steady trade for several European countries. Good clearances in home trade cloths. Index number for the week is 204.

The Gingham Meeting

Representatives of every important gingham manufacturer in the country met in New York on Monday in the offices of the Association of Cotton Textile Merchants of New York. Sentiment at the meeting, which was presided over by William G. Broadway, of Smith, Hogg & Co., chairman of the association's gingham committee, was strongly in favor of the exchange of statistics regarding production, stocks, etc. It is considered likely that the meeting will result, in effect, in a revival of the old Gingham Association. Mr. Broadway has appointed the following committee to draft a plan for the creation of a proper organization for the dissemination of statistics: Jacques Bramhall, Amory, Browne & Co., chairman; T. Holt Haywood, Fredk. Victor & Achelis; George Ray, Riverside & Dan River Cotton Mills; C. H. Briner, Bliss, Fabyan & Co.; B. H. Smith, American Bleached Goods Co.



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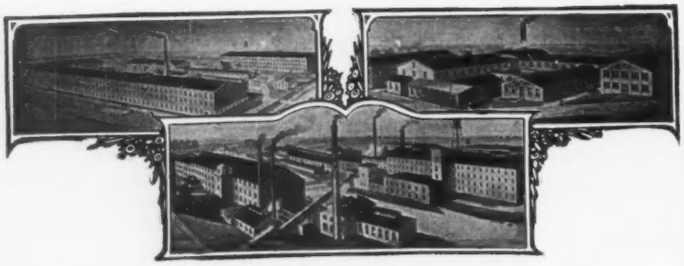

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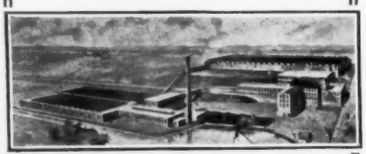

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WOOL GOODS MARKETS

Adding New Lines to Fall Showings

Women's Wear Mills Offer Further Attractions to Draw Out Buyers

There are evidences of preparation for business in women's wear circles, but little actual activity during the current week. A number of houses are bringing out new lines for the fall season. These goods are designed with a knowledge of what has been done so far on that season, and their chances for success from a styling viewpoint are therefore great. Among them are to be found no radical departures from what has been considered good fashion during the few months since the earliest openings. It has been consistently difficult to get the garment manufacturer to operate ahead, as noted from time to time in this column. Some of them seem to believe that not only will they be surer of their style by operating later, but that they will get their goods cheaper.

Conversations with buyers during the latter part of June disclosed the fact that they believe many mills are keenly desirous of liquidating materials on hand, and the buyers are expecting concessions because of this supposed need by mills for ready cash. Tactics of this kind often play a part in the distribution of garments to the retailer, but it is obviously not designed to operate well in supplying a large industry with materials which can best be made against orders on hand for future delivery. The retailer often plays upon the fact that the garment house has a stock on hand and must liquidate his garments in order to pay his fabric bills. Some garment makers are not averse to playing the same game with the mill. The fly in the buyer's ointment this time is the absence of any consequential stock of goods in first hands.

The most wanted cloths appear to be needle point bolivias, and broadcloths, with a less general interest reported from some quarters in worsted twills. These are the fabrics which are being groomed for leadership when the fall season starts in in earnest. They are to be found prominently in the supplementary lines which have been placed on the market recently.

Women's Wear Notes

B. Priestley & Co. are featuring for fall covert cloths for women's wear, both plain and fancy, at $2.85 to $4.50; corded fabrics in which "Needle Cord" is stressed, at $2.85; silk and wool rep at $3; cord rep, $3.05; all wool poplins at $3.25 and $3.50; "Coscuna" flannel, $2.92½ and $3; rayon mixture "Diamante," $2.87½; broadcloth, $3.85, and $6 for "khama" of silky finish; "Surah Sheen," $2.85; sheen twill, $3.25, and suede coating, $3.67½.

* * *

Thomas J. Maloney is associated with Edwin & Louis Bry. Mr. Maloney had been associated with R. T. Francis.

* * *

William Whitman Co., Inc., have added to their early fall line several new fabrics which will be shown early in July. Reps are given an important place in the collection, in plain order as well as fancies, the latter featuring rayon stripe decoration. The collection also includes a line of twills, which, it is said, are selling well in gray, and green and a brown shade which is like a golden cocoa.

* * *

The Ardsley Textile Co., Inc., has added to the fall collection of the Eick Worsted Co., three fabrics of the needlepoint bolivia type. The prices are $6.25, $8.25 and $8.50, and a wide range of colors is offered.

International Style Exhibit Includes the Flared Silhouette

After several postponments of dates, due to delayed delivery of the French exhibits, the International Style Exhibition was given at the Hotel Astor on the evening of June 29 under the auspices of "Fabric and Fashion," a well known trade promotion organization headed by Max Theilheimer. Fourteen foreign exhibitors were represented including Frnch and Viennese firms. These included such well-known couturiers as Lanvin, Drecoll, Bernard, Brandt, Phillip & Gaston, Juliette Courtisien, Marthe Pinchart, Magdelene des Hayes, Christine, Cyber, Gilbert, Estelle, and the Viennese makers of children's frocks, Petits-Prim.

The American exhibitors included Bruck-Weiss, George Bernard, Georgette-Pinco, Marion Stehlik, Mayer "Chic," among the costume creators, Bruck-Weiss presenting a wedding procession.

No radical style features were presented. In the main, the silhouettes included flared styles as a predominant trend, with skilfull versions of the back flare and pleated back effects

(*Continued on page* 133)

Tropical Offerings Maintain Interest

Pre-Holiday Week in Men's Wear is Otherwise Dull—Watch Coming Wool Sales

Were it not for the offerings of tropical weight specialties which are being made for the spring and summer season of 1926, the current market for men's wear fabrics would be extremely dull. As it is, the fact that the Independence Day holiday ties up with a week end, has made the latter half of the week even duller than the first half. Much of the initial business in tropicals has been done prior to the formal openings, and it is everywhere reported that this early business is very satisfactory. Most of these goods are turned out by manufacturers who have become particularly expert on certain lines and prices have been stable for a number of seasons, the only change from opening levels being advances, any necessary downward changes being made at the beginning of seasons. The present opening prices are taken by buyers as well founded, and there is a notable absence of speculative comment. The fabrics themselves and their styles are the things which are given the most thought. The styling has moved in harmony with latest fashion.

Selling agents are wondering how far they may take the support being given the tropicals as indicative of the spirit which will pervade the opening of regular lines later on. Many merchants feel that the success of the specialties is merely another indication of the domination which they have come to hold over the summer season, and they point out that never in recent years has the spring season been counted upon as more than a five months' season, with the fall season running mills for the remaining seven months. The buyers of tropicals comprise a group of specialty houses which overlap only slightly with the group of regular clothing manufacturers who support the regular lines.

The opening of a new series of wool sales in London next week and of the Australian sales on July 13, as announced in these columns last week, are being looked forward to as the final piece of evidence to show the extent to which firmness has returned to the raw wool market.

BRADFORD NEWS BY CABLE

Bradford, Eng., July 1 (Special Cable to TEXTILE WORLD).—In the piece goods trade has been good clearance of retailers' stocks of lightweight woven and knitted wear, especially sports goods, and manufacturers have been fairly busy on rush orders. Otherwise the piece goods trade is dull.

Men's Wear Notes

The American Woolen Co. opened tropicals on Wednesday as below. An analysis of the price situation shows that two fabrics were advanced 2½c, five remain unchanged, and 24 decreased from 2½ to 15c. Following are the prices:

DEPARTMENT 1	Low	High
Washington Mill, mixtures	2.00	2.12½
Wood Worsted, piece dyes	1.85	2.57½
Wood Worsted, mixtures	1.77½	1.87½
Ayer Mill, piece dyes	1.65	2.22½
Ayer Mill, mixtures	1.70	1.95
DEPARTMENT 2		
National & Providence Mills	2.32½	3.50
Champlain Mills	1.87½	2.20
Shawsheen Mills	2.40	3.02½
Riverside Mills	2.15	2.42½
DEPARTMENT 3		
Anderson Mills	1.55	1.77½
Weybosset Mills	1.77½	1.85
Moosup Mills	1.82½	2.00
DEPARTMENT 7		
Puritan Mills	2.25	2.62½
Beoli Mills	2.50	2.70

* * *

Alfred C. Gaunt & Co. have opened tropicals, ranging from $2.17½ to $2.75 net. Their Traveltex line is opened at $2.37½ net and their Oriole line at $2.17½ net. They are introducing a new line of silk-and-worsted crashes at $2.75 net. Weights range from 7½ to 8½ oz., and widths from 58 inches to 60 inches.

* * *

Henry W. T. Mali & Co. have opened Simonis tropicals at $2.75 net, and Olympic tropicals at $2.32½ net.

* * *

S. Herbert Golden Co. are showing for the Windsor Mills, No. 2 blue, black and brown cheviots for immediate shipment, at 40c net; also a line of flannel thibets, especially suited to the trouser trade, style No. 2 of the Windsor Mills, at 40c net.

* * *

B. Priestley & Co., Inc., will open their tropical weight lines early next week.

* * *

William Whitman Co., Inc., will formally open their summer weight lines next Monday.

* * *

The Earnsdale Worsted Co., of Clinton, Mass., has prepared a line of tropical worsteds which will shortly be shown by the selling agents, Wallach, Hoexter & Co.

* * *

The Cleveland Worsted Mills Co. (Pincus, Sachs & Co., selling agents), will probably show their tropicals for the new season about July 15.

* * *

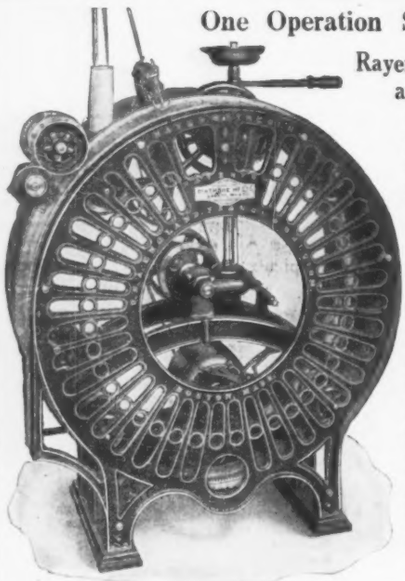
The United States Worsted Sales Corp. expects to show its tropical worsteds next week.

* * *

Brewster & Galbraith have been appointed selling agents for the Almont Worsted Co., of Philadelphia, according to an announcement this week. They will be located in rooms 1811–1812, 25 Madison avenue.

One Operation Saves Machine's Cost

Rayer & Lincoln Rotary Sewing and Trimming Machine



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See pages 218 and 219 of Consolidated Textile Catalogs.

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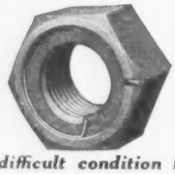

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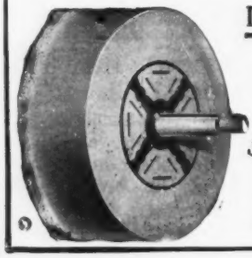

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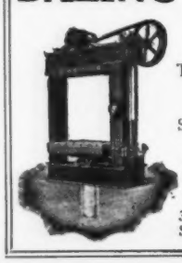

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FINANCIAL MARKETS

Little Change Seen In Textile Stocks

Small Offerings and Moderate Demand With Few Important Changes in Stock Values

BOSTON, July 1.—Trading in textile securities has now entered a period of mid-summer dullness, and with restricted offerings and only a moderate demand no marked changes in stock values have occurred or are looked for. Transactions on the local stock exchange are a fair reflection of general conditions, and with the exception of Amoskeag common have shown only fractional price changes during the week; at the close of last week Amoskeag common had advanced 2½ points to 68¼ and after dropping yesterday to 67 advanced today to 72, or a net gain for the week of 6¼ points. Pacific got as high as 60 at the close of last week and since then has reacted to 58¾. The American Woolen issues are practically unchanged for the week although the trend is upward.

Nashawena-Manomet Rumors

No one identified with the Nashawena Mills or Manomet Mills, New Bedford, Mass., will confirm or deny the report that the number 3 Manomet Mill is to be absorbed in some manner by the Nashawena Mills. Manomet number 3 is the finest of the four spinning units of this company and has about 70,000 spindles. The report has it that it is to be taken over by the Nashawena Mills at about $14 a spindle or approximately $1,000,000, and that the latter will install looms and warp preparatory machinery and operate it as a weaving mill. At a price approximating the figure named it undoubtedly could be operated profitably by the Nashawena, and such an amount of money could be utilized to better advantage by the Manomet than could the mill itself under present conditions, it being assumed that there would be a proportional shrinkage in Manomet capital and in its dividend requirements. The assumption that Nashawena would pay for the Manomet number 3 out of surplus and thus shrink its working capital by this purchase and by the outlay for loom equipment is not in accord with former Whitman methods of financing, and it is safe to predict that if such a transaction is put through there will be an increase in the Nashawena capital to take care of the financing.

Dwight Financing Plans

Stockholders of the Dwight Mfg. Co., cotton goods, Chicopee, Mass., have until June 10 to subscribe at par, $25 per share, for 96,000 shares of new stock, in proportion of four new shares for one of old stock. In explanation of the new financing directors of the Dwight have mailed the following circular to stockholders:

"On Aug. 1, 1924, the directors advised you of their feeling that a part of the large sums (well over $4,000,000) spent during the last 15 years in an effort to bring the property up to date should be permanently financed in order that the company may be independent in making its financial arrangements. The desirability of this has since been emphasized because during the last 18 months the cotton industry has been going through a period such as has not been previously known for over 50 years. The combination of high prices for raw cotton and low prices for finished goods has resulted in the case of many mills in actual losses in operations. In the case of some mills, including those owned by the company, it has become necessary to arrange to secure new capital to improve the current position and the issue of $2,400,000 of new stock, authorized at the stockholders' meeting April 28, 1925, is being made for this purpose.

"The value of the real estate, machinery and equipment as of Nov. 30, 1924, on a cost less depreciation basis, as required by the Federal Government for purposes of taxation was $5,623,850. The value of the property as determined by the local assessors is $6,861,437, and the value used by the Mutual Insurance Companies in fixing the value of the company's property under the system of Mutual Insurance in New England is $12,591,676. These properties are carried on the company's books at $3,000,000.

"The conditions in the mill industry during the last few years have been abnormal. In some years, the conditions have been unusually good and in others bad. In addition, the figures of the company during the recent years do not reflect the true earning capacity of the property, because the mills, particularly those at Chicopee, have been in process of reconstruction. The following figures, however, have been prepared on the basis of an annual sum of $1.50 per spindle charged against earnings to cover repairs in depreciation. Interest is charged one-third to Alabama City and two-thirds to Chicopee.

	Alabama City		Chicopee	
	Net sales	Profits	Net sales	Profits
1917	$3,693,786	$584,375	$4,307,903	$246,561
1918	4,329,211	453,840	6,252,060	703,226
1919	5,753,487	874,305	6,733,425	486,353
1920	5,369,180	742,876	6,703,855	255,127
1921	2,261,363	def 668,080	3,571,693	def 101,678
1922	3,441,830	*261,128	4,185,520	def 359
1923	4,720,367	264,409	4,815,152	def 277,837
1924	3,160,245	def 130,264	2,997,108	def 928,646
Total		$2,382,590		$27,506

*A bad debt of a very unusual nature amounting to $284,086, charged against 1922 earnings on the company's books, is not included in this figure.

"While the Chicopee mill has not been a source of profit to the company, the earnings of the Alabama City mill have averaged, during the above 8 years, 9.9% on $3,000,000. These earnings do not reflect the benefit to be derived from the more economical operation of the properties by the improvements referred to.

"The company has had an unbroken dividend record of almost half a century following its resumption of dividends after the country's recovery from the depression following the panic of 1873. On its outstanding capital stock of $1,200,000, increased in 1920 to $2,400,000 by a stock dividend, the rates of cash dividends by decades beginning 1880 have averaged as follows:

	Average cash dividend rate
1880 to 1889	8.6% on $1,200,000
1890 to 1899	11.2 " "
1900 to 1909	12.8% " "
1910 to 1919	12.6% " "
1920 to 1924	6.3 on $2,400,000

"During the period covered by the above table, the lowest cash dividends paid in any year prior to 1924 was the 6% dividend paid in 1885. 2% was paid in 1924.

"The directors felt that it was wise to arrange this financing by means of common stock rather than by the issue of bonds or preferred stock, which would have committed the company to a fixed charge against earnings ahead of the present stock."

Boston Stock Auctions

The following sales of textile shares were made at Wednesday's auctions:

Shrs.	Mill	Par	Price	Change
11	Bates	100	213¼@214	+10¼
100	Massachusetts	100	90½	—17½
15	Bigelow-Hartford	100	101 5/8@102½	— 1⅞
1	Dartmouth pfd.	100	85½	— ⅛
5	Ludlow	100	165¼	+2¼
8	Plymouth Cordage	100	*123	+1⅜
15	Algonquin Printing	100	264½	+9½
155	Total			

*Extra dividend.

Dividends Declared

Mill	Rate	Period	Stk.	Payable	To stock of
Arlington	$2	Q	com	July 1	June 23
Nashua	1¾%	Q	pfd	July 1	June 22
Plym'th Cordage	1½%	Q	com	July 20	July 1

Shares Hold Firm

Rumors of Change in Control Feature at New Bedford

NEW BEDFORD, MASS.—Rumors that the Nashawena is to take over No. 3 Manomet Mill and change it over into a fine cotton goods mill, coupled with the fact that the New Bedford Spinning Co.'s plant is also to be extended with the installation of additional looms under the control of Amory, Browne & Co. have been the chief topics of discussion in mill circles during the last few days.

For the time being, Nashawena stock prices have reflected the attitude of the public by easing off 4 points since the proposed change was rumored, and shares have sold as low as 118½ after realizing as high as 122 just prior to reports of the transfer. Nashawena stock has paid 8% for the last 4 years, or equivalent to the 16% rate in effect for 2 years prior to the stock dividend.

Dartmouth common strengthened, and sales of the stock at 145 represent a gain over previous transactions. The bid price of 142 is an advance of 4 points for the week, while recently offerings of 147 have since been withdrawn from the list. Gosnold common and Gosnold preferred have also shown a stronger tone, the preferred selling at around 70, and sales of the common stock at 54 and 55. Booth common has had quite a little inquiry, and sales at 127 and 129 show a slight gain in price for the stock.

Wamsutta eased off one point for the week with an asking price of 82, selling at 81. Potomska changed hands at both 83 and 84, with more shares offered at 85, Whitman finding a ready market at 93½ following sales at 95, at which price more stock is available. Quissett common sold at 142½, though most of the stock now offered is held for 145. Acushnet changed hands at 74 and 75, with more stock sought at 73. Soule is bid around 180, but this offer fails to bring out any shares for sale. Fairhaven common and preferred show signs of still further weakening, but Sharp common and preferred hold their own.

Continued Recession

GASTONIA, N. C.—The average in bid price of 114.72 for the week before last was reduced by $1.12 per share last week, the average for the 25 active stocks as released by R. S. Dickson & Co., standing at 113.60. The following stocks were marked down $1 to $6 per share,—Art Cloth, Globe, Hamrick, Mansfield, Marlboro, Mooresville, National, Ranlo Mfg., Riverside, Rowan, Winget, and Jennings. Despite the average decline of $1.12 per share in bid price, there was considerably more activity shown in the market than during the previous week which resulted in a decline of only 8 points. The lower prices attracted more buyers than has been noticed for several weeks.

Mills Get Tax Refund

Compromise Settlement in Fall River Abatement Case

FALL RIVER, MASS.—The 39 local textile corporations that sought an abatement of their city taxes for the years 1921, 1922 and 1923, totaling about $3,000,000, have agreed to accept $1,088,342 in a compromise settlement and the aldermanic committee on finance has recommended the payment of the latter sum.

It was after a court trial of the abatement petitions of the King Philip Mills and the Luther Mfg. Co., at a cost in counsel fees to the city of well upon $40,000 and in witness fees to the two mills of a like sum that Mayor Talbot suggested the engaging of counsel that would prove satisfactory to both the city and the mills to take up the matter of a compromise settlement of the cases. Attorney John W. Cummings was engaged and it was largely through his efforts that the compromise settlement was agreed upon.

The city has already been authorized to float a loan of $1,000,000

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Gears for Silk Throwing Plants and Special Machinery
PROMPT SERVICE

Financial Markets—Continued

towards meeting the refund and it is proposed to raise $167,000 in addition by direct taxation to pay the balance and costs of making the awards.

The basis of abatement on spindle valuation varies from 18 to 56c per spindle. No abatement is made to the Stafford Mills for 1922 taxes nor to the Charlton Mills for 1923 taxes as no claims were made of excessive valuations in these two instances.

Petitions for abatement of 1924 taxes, filed by the mills, are to be withdrawn.

As agreed upon the refunds to the several mills are as follows:

	Total Refund
American Printing Co.	$100,000 00
American Thread Co.	23,206 39
Charlton Mills	13,226 00
Davis Mills	21,239 27
Foster Spinning Co.	7,624 69
Flint Mills	36,853 81
King Philip Mills	33,682 74
Lincoln Mfg. Co.	33,778 26
Luther Mfg. Co.	18,423 00
Pilgrim Mills	15,434 44
Richard Borden Mfg. Co.	27,940 60
Sagamore Mfg. Co.	46,585 90
Tecumseh Mills	29,829 11
Connecticut Mills	17,011 00
Cornell Mills	13,292 00
Durfee Mills	50,599 73
Granite Mills	38,435 86
Merchants Mfg. Co.	40,496 50
Osborn Mills	25,624 24
Stafford Mills	19,562 00
Arkwright Mills	14,523 02
Barnard Mfg. Co.	27,479 91
Border City Mfg. Co.	40,569 14
Davol Mills	16,050 35
Laurel Lake Mills	17,463 00
Union Cotton Mfg. Co.	30,903 71
Parker Mills	22,242 00
Wampanoag Mills	26,252 00
Mechanics Mills	18,809 48
Weetamoe Mills	15,614 54
Seaconnet Mills	17,588 00
Narragansett Mills	18,976 64
Chace Mills	43,507 37
American Linen Co.	29,415 00
Pocasset Mfg. Co.	63,680 00
Shove Mills	14,658 34
Troy Cotton & Woolen	26,069 00
Ancona Company	22,725 00
Conanicut Mills	8,970 00
Totals	$1,088,342 04

New England Textile Stocks

(Quotations based upon last sales at Boston public auction and Boston Stock Exchange.)

	Latest Sales	Prev. Sales
American Woolen, pfd.	78¼	78¼
Amoskeag, com.	72	65¾
Androscoggin	125	132
Appleton	720	760
Arlington	91⅛	92
Bates	214	203½
Bigelow-Hartford, pfd	105	104¼
Boott	135½	...
Edwards	115	110
Esmond, pfd	100⅛	93½

COPARTNERSHIP NOTICES.

NOTICE OF EXPIRATION OF PARTnership.—The co-partnership of Clarence L. Collins & Co., dry goods commission merchants, of 27 Thomas Street, New York City, consisting of Arthur Sylvester, William T. Ketcham and William H. Dempsey, general partners, and the estate of Clarence L. Collins, special partner, expired by limitation, June 30th, 1925.

PARTNERSHIP NOTICE.—Arthur Sylvester and William T. Ketcham have formed a partnership to continue the business of Clarence L. Collins & Co., under the firm name of Sylvester & Ketcham, at the above address. July 1st, 1925.

DIVIDEND NOTICE

The Pilgrim Mills have declared a quarterly dividend of $2.00 per share payable June 30th, to stockholders of record at the close of business, June 27th, 1925.

Everett	57	57
Farr Alpaca	167	165⅜
Great Falls	16	15
Hamilton Woolen	86	95½
Hamilton Mfg.	39⅛	35¾
Hill	42	41¾
N. E. Southern, pfd.	25	25
Ipswich, com.	25	26½
Lawrence	45⅝	50¼
Ludlow Associates	165¼	163
Lyman	122	133
Massachusetts	90½	108
Merrimack	98¼	98⅛
Nashua Mfg. Co., com.	64¼	64
Naumkeag	186¼	187¼
Newmarket	140¼	141⅛
Pacific	58⅜	59
Pepperell	117¾	115
Plymouth Cordage	123	122⅛
Tremont & Suffolk	43⅛	108⅞
York	78¾	112¾

Fall River Mill Stocks

(Quotations furnished by G. M. Haffords & Co.)

	Bid	Asked
American Linen Co.	...	40
Arkwright Mills	...	15
Barnard Mfg. Co.	...	60
Border City Mfg. Co.	...	85
Borden Mfg. Co., Richard	...	99
Bourne Mills Co.	...	...
Chace Mills	...	50
Charlton Mills	...	127
Cornell Mills	...	115
Davis Mills	85	...
Davol Mills	40	50
Flint Mills	...	92
Granite Mills	...	70
King Philip Mills	138	...
Laurel Lake Mills (com)	5	15
Lincoln Mfg. Co.	70	...
Mechanics Mills	...	55
Merchants Mfg. Co.	80	...
Narragansett Mills	...	90
Osborn Mills	...	80
Parker Mills, com.	...	15
Parker Mills (pfd)	...	50
Pilgrim Mills (com.)	150	...
Pocasset Mfg. Co.	...	40
Sagamore Mfg. Co.	190	...
Seaconnet Mills	...	...
Shove Mills	...	50
Stafford Mills	...	50
Stevens Mfg. Co.	...	128½
Union Cotton Mfg. Co.	95	...
Wampanoag Mills	...	55
Weetamoe Mills	...	40

New Bedford Quotations

(Quotations furnished by Sanford & Kelly.)

Acushnet Mills	74	...
Beacon Mfg. Co., com.	125	...
Beacon Mfg. Co., pfd.	...	100
Booth Mfg. Co., com.	115	...
Booth Mfg. Co., pfd.	100	...
Bristol Mfg. Co.	162½	...
Butler Mfg. Co.	...	115
City Mfg. Co.	95	105
Dartmouth Mfg. Co., com.	142	...
Dartmouth Mfg. Co., pfd.	85	...
Fairhaven Mills, pfd.	20	...
Fairhaven Mills, com.	...	25
Gosnold Mfg. Co., com.	55	60
Gosnold Mfg. Co., pfd.	69	...
Grinnell Mfg. Co.	100	...
Hathaway Mfg. Co.	...	117½
Holmes Mfg. Co., com.	...	117½
Holmes Mfg. Co., pfd.	90	...
Kilburn Mill	...	120
Manomet Mills	...	43
Nashawena Mills	...	118
Neild Mills	210	220
N. B. Cotton Mills, com.	100	...
N. B. Cotton Mills, pfd.	97½	102½
Nonquitt Spinning Co.	50	55
Pemaquid Mills	...	26
Pierce Mills	400	450
Potomska Mills	80	85
Quissett Mills, com.	137½	142½
Quissett Mills, pfd.	100	...
Sharp Mfg. Co., com.	32½	...
Sharp Mfg. Co., pfd.	53	55
Soule Mills	170	...
Taber Mills	100	...
Wamsutta Mills	79	82
Whitman Mills	90	...

Scott & Williams, Inc., New York, manufacturers of knitting machinery, have cancelled 2,720 shares second preferred stock, $100 par, purchased in accordance with sinking fund provision, reducing its capital to $3,000,000, divided into 10,000 shares perferred and 20,000 shares common stock, both with a par value of $100.

ALBANY, N. Y. The Excelsior Textile Corp., capitalized at $25,000, is a grader of all kinds of reworked textile stocks. Willis G. Barnet is president and Frank G. Coburn, treasurer.

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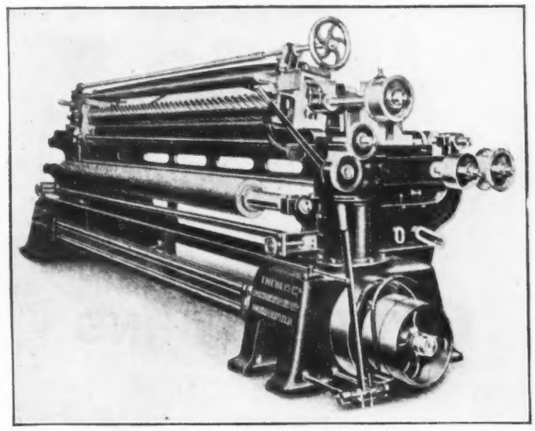
Importer of
TEXTILE MACHINERY



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ARROW MILLS, INC.
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JOHNSTON MILLS CO.

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Cotton Yarns

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Roberta Mfg. Co., 10/1 to 18/1 cones have no superior in knittiing and finishing qualities.

Eastern Mfg. Co., 26/1 to 30/1, and **Ethel Cotton Mills,** 16/1 to 22/1, cones are admirably suited to the knitting test of underwear machines.

Norcott Mills Co., single and ply, 20s to 40s, make fabrics closely akin in finish and durability to combed goods.

COMBED:—

Johnston Mfg. Co., 8s to 22s single and ply, long recognized as a standard of uniformity, evenness and excellence in its knitting qualities for hosiery.

Monroe Mills Co., 26s to 34s, single and ply, for the knitting, mercerizing and weaving trade. A consistently good product carrying with its sale guaranteed satisfaction.

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Spinners Processing Co., Mercerized, gassed, bleached, dyed yarns in all counts, which for lustre, quality of workmanship and knitting qualities leave nothing to be desired.

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MIXED YARNS

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WOOL PERCENTAGES UP TO 25%

Yarns of Special Interest to Hosiery and Underwear Manufacturers

THOMAS HENRY & SONS INC.

P. O. STA. E PHILADELPHIA, PA.

COTTON YARN MARKETS

Yarn Sales Await Gov't Crop Report

Conditions Slightly Better, but Uncertainty Still Important Factor in Situation

NEW YORK.—The yarn market is in a state of suspended animation. This is written the day before the issuance of the Government report on size of the crop and at this time buyers are using the imminence of this publication as an excuse for holding off. Notwithstanding the fact that many feel the likelihood of a bullish report they are willing to wait in the hope that the figures may be such as to create a bearish influence upon yarns. The possibility of a decided upturn to prices, should the Government indicate something under 13,000,000 bales, is generally admitted and almost as generally deprecated. If the yarn market were at a low level such movement might not interfere with business and on the other hand might cause a decided interest in yarn for the future. With the level comparatively high an advance of any moment is likely to drive buyers further out of the market than they are today. Of course all this is conjecture and by the time this is printed the report and its effects will be generally known.

Market Generally Better

A slight degree of improvement has been noted within the last week or two, especially as far as the attitude of buyers is concerned. The latter admit it is not as easy to deal with the seller as it was several weeks ago. The remark of a prominent knitter is significant in this connection. He said, "I know that the figure at which I am attempting to buy means a short sale on the part of the seller or throwing overboard at a loss stock which he may have on hand, but at the same time I am hopeful that I shall be able to find someone who is willing to do either one of these things." There is no doubt that irregularities still exist in quotations but the selling market is nearer the figures of the spinner than it has been of late. It is not possible to record any marked changes in price but those that are made in the appended list are in the direction of higher levels, though the alteration is fractional.

Buyers' Business Sluggish

It is only natural that the yarn consumer should adopt a conservative policy. With the majority of trades it is impossible to keep machinery in full operation or anything near it. Naturally, therefore, the yarn user is not at all keen about adding to his commitments under the circumstances. What he buys is practically confined to current needs for filling in odd lots

(*Continued on page* 131)

Cotton Yarn Quotations

(*Corrected at close of business July* 1)

Spot Cotton July 1, 1925—24.70c; July 1, 1924—30.90c.

Carded—(Average Quality)

Single Skeins and Tubes—(Warp Twist)

4s to 8s	—	—35½	20s	—	—39
10s	—	—36½	24s	—	—41
12s	—	—37	26s	—	—42
14s	—	—37½	30s	—	—43
16s	—	—38	40s	—	—54

Two-Ply Skeins and Tubes

8s-2	—	—36½	26s-2	43	—43½
10s-2	—	—37	30s-2	—	—45
12s-2	37½	—38	36s-2	—	—53
14s-2	38	—38½	40s-2	53½	—54
16s-2	38½	—39	40s-2 High breakage	57	—58
20s-2	39	—40	50s-2	—	—65
24s-2	42½	— 43			

Single Warps

10s	—	—37	24s	—	—42
12s	—	—38	26s	—	—43
14s	—	—38½	30s	—	—44
16s	—	—39	40s	54	—55
20s	—	—39½			

Two-Ply Warps

8s-2	—	—37	24s-2	—	—43
10s-2	—	—37½	26s-2	43½	—44
12s-2	—	—38	30s-2	—	—45
14s-2	38	—38½	40s-2 ordinary	—	—54
16s-2	39	—39½	50s-2	—	—66
20s-2	—	—40			

8s-3 and 4-ply skeins and tubes; tinged, 34c.; white, 36c.

Hosiery Cones (Frame Spun)

8s	—	—36½	22s	40	—41
10s	—	—37	22s (silver and Jaeger)	—	—43
12s	—	—37½	24s	41	—42
14s	—	—38	26s	42	—43
16s	—	—38½	30s tying in	—	—44
18s	—	—39	30s extra quality	45	—46
20s	39½	—40	40s	—	—54

Combed Peeler—(Average Quality)

Warps, Skeins and Cones

20s-2	55	—57	50s-2	77½	—80
30s-2	60	—61	60s-2	85	—90
36s-2	66	—68	70s-2	95	—1 05
40s-2	68	—70	80s-2	1 10	—1 15

Singles

12s	45	—46	30s	57	—59
14s	46	—47	38s	67	—69
16s	47	—48	40s	68	—70
18s	48	—49	50s	78	—80
20s	49	—50	60s	85	—90
24s	51	—53	70s	96	—1 00
28s	54	—56	80s	1 12	—1 17

Mercerized Cones—(Combed, Ungassed)

26s-2	73	—75	50s-2	90	—94
30s-2	76	—78	60s-2	98	—1 03
36s-2	78	—81	70s-2	1 12	—1 17
40s-2	83	—86	80s-2	1 30	—1 35
45s-2	86	—89			

Peeler—(Super Quality)

Single Cones

	Carded		Combed			Carded		Combed	
10s	40	—42	50	—52	26s	45	—47	58	—60
14s	41	—43	51	—53	30s	48	—50	60	—65
16s	41½	—43	52	—54	36s	54	—56	68	—70
18s	42	—44	53	—55	40s	58	—60	72	—78
20s	42½	—44	54	—56	50s	—	—	82	—88
24s	44	—46	56	—58	60s	—	—	92	—98

Combed Cones, Warps and Tubes

20s-2	63	—65	40s-2	76	—81
24s-2	65	—67	50s-2	82	—87
28s-2	66	—68	60s-2	90	—95
30s-2	67	—69	70s-2	1 00	—1 10
36s-2	73	—75	80s-2	1 15	—1 20

Combed Reverse Twist Thread Yarns—Skeins, Tubes or Cones

2, 3, and 4-ply

	Peeler				Sakelarides			
	Average		Best		Average		Best	
24s	71	—72	73	—78	Nominal	....	Nominal	
30s	72½	—74	75	—80	Nominal	....	Nominal	
36s	75	—77½	80	—85	Nominal	....	Nominal	
40s	80	—82½	85	—90	Nominal	....	Nominal	
45s	85	—87½	90	—95	Nominal	....	Nominal	
50s	90	—92½	95	—1 00	Nominal	....	Nominal	
60s	95	—97½	1 05	—1 00	Nominal	....	Nominal	
100s	—	—			....	....	2 00	—2 70
					....	....	2 40	—2 70

Prices Firmer; Less Activity

Good Volume Booked During June—Spinners' Quotations Higher—Combed Rises

PHILADELPHIA.—Although interest displayed by manufacturers has been less active this week many dealers report a fair amount of business placed with prices slightly firmer than heretofore. Buyers who have been taking yarn steadily during the month have, in several instances, withdrawn temporarily while waiting for the crop report which was issued this week. Dealers and spinners, however, are generally well pleased with the volume of orders booked during June, many stating the total was considerably larger than in the corresponding month a year ago. The third week of June was active with the last at approximately the same level or larger while a slightly smaller total has been received during the current week. Cotton has been steady during most of this time and the margin between cotton and yarn selling prices in this market has been growing smaller, until the last few days of the month.

Short Selling

There has been considerable speculation in trading during the entire month, manufacturers offering several cents under the market level and certain spinners have taken such offers with the intention of buying cotton in the fall at prices which will allow them a profit even at the low figures at which this business was booked. This condition has been apparent both in weaving and knitting qualities, sales of 20s-2 warps being reported in large amounts two weeks ago as low as 37½c. which is based on the assumption the dealer or spinner will be able to buy much cheaper within the next few months. It should be noted, however, such sales have been made more frequently by dealers than by spinners, although many of the latter have been willing to speculate on this basis. Last week one spinner is said to have taken more than 600,000 lbs. of double carded business from up-state knitters on a basis of 43c. for 30s which is based on 18c. or 20c. cotton before time of delivery, the transaction being more in the nature of a gamble both for buyers and sellers.

Although spinners have not raised their prices to any important degree this week, prices are stronger and it is no longer possible for manufacturers to buy at low figures named earlier in June. For example, lowest priced sales of 20s-2 warps noted this week were at 39c. which represents an increase of at least a cent over two weeks ago. Dealers state it is

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CHICAGO

Westaway Building
HAMILTON, CANADA

MILLS
CHESTER, PA.

Cotton Yarn Markets—Continued

MANCHESTER YARN CABLE

Manchester, Eng., July 1 (Special Cable to TEXTILE WORLD).—Yarns from American cotton are dull. Short time equal to a stoppage of one day per week is not considered sufficient to prevent over-production. Egyptian yarns are slow and more producers compelled to limit output.

becoming difficult for them to locate spinners willing to sell this number at 40c, the majority now asking 41c to 43c, depending upon the grade desired while 45 to 46c is asked for 30s-2 warps of standard description, sales being made at one cent less. Largest demand for weaving yarns has come from electrical concerns who have placed large orders for 20s-2, 26/2 and 30s-2 tinged and waste. This interest has continued during the present week, one dealer stating he lost a 50,000 lb. order for 30s-2 tinged tubes by quoting 43c, the business being placed at 42¾c.

Knitting Demand Good

Carded knitting yarns are firmer, many spinners quoting 37c or 38c for 10s cones, with slightly poorer qualities being offered at one cent less. Spinners, however, are well situated in regard to business in hand and are not inclined to cut prices unless an especially large inquiry is received. Sales to up-state knitters have been made as low as 36c for 16s although dealers state it is no longer possible to offer such figures. There has been a good demand for 26s cones for immediate delivery, coming from lightweight underwear mills wishing to fill duplicate orders. They usually specify yarn to be delivered by express. This business has been placed at average price of 42c. Demand for double carded for fall delivery has been less active as large orders have already been placed and spinners are no longer willing to take orders at 43c. They are now asking 45c to 46c and find manufacturers more conservative in their purchases.

Combed Grades Higher

Interest in two-ply combed yarns continues fair to good, mercerizers and weavers both displaying interest. Prices are unchanged, in most instances, although considerably firmer than last week with greatest improvement being in finer counts. Quotations of 50s-2 have been raised from 76c to 77½c for mercerizing twist; 60s-2 are quoted at 85c to 90c comparing with 82c to 86c asked a week ago and while no large amount of business has been placed at 85c for 60s-2 there are few spinners willing to consider any less although mercerizers state it is impossible for them to sell at their former prices and pay more for gray yarns. Many of the latter have raised their prices during the week three to four cents on mercerized qualities. Single combed knitting yarns have been quiet, sales of 30s being made at 57c. Mercerizers have booked a large volume of near-by delivery business during June at prices ranging from 90c to $1.00 for 60s-2, depending on the need for business and quality. With this in hand they have now raised their prices to a basis of 99c for 60s-2.

Prices Firmer

Due to Curtailment, Better Demand and Higher Cotton

Boston.—It is difficult to say whether the continued advance in raw cotton prices, curtailment of production, or the existence of a considerable volume of uncovered short sales are chiefly responsible for the improved demand and firmer prices for medium and coarse count carded cotton yarns, and it is probable that all three factors plus the poorly covered position of many yarn users have helped to work this part of the market into a better position than it has occupied at any time since last March. There has been no marked increase in the volume of sales because many of the offers were 1 or 2c below spinners' minimum selling prices; for much the same reason there have been only moderate advances in quotations, but the advance in asking prices averages fully a cent a pound. Demand for combed yarns has also shown a considerable improvement, although keenness of competition between northern and southern spinners has kept prices nominal and unchanged; the feature of this part of the market has been the willingness of certain eastern spinners to accept business at cost or less than cost despite the scarcity and relatively high price of premium cottons.

Neither yarn users nor spinners have in all cases given up hope of being able to buy cotton at or near 20c sometime this season, but they are commencing to realize that cotton has advanced an average of 2½c within the last two months, and that on a demand and supply basis yarns are now in a stronger position than they were early in May. Buyers are also commencing to realize that curtailment of production is no longer a rumor but a fact, and that, although there is no real scarcity of yarn, there are no stock accumulations of consequence, and that they must place advance orders to be sure of having the yarn when they need it.

No one is able to estimate the volume of uncovered short sales made during May and June, but they are a factor of strength under present conditions that cannot be overlooked. If sales on a basis of 37c for 20s-2 ply warps and 35c for 10s frame spun cones were as large as reported by buyers then such short selling will

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The Secret

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The quality is often attributed to expert workmen or special machinery. But in most cases the real secret of the quality is simply the use of a better quality yarn.

The importance of the yarn used is so obvious that it is often neglected. Machines and men are important—but try Quissett Yarns and you will have others envying you.

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Quissett Mill-New Bedford, Mass.

Wm. M. Butler, Pres. Edward H. Cook, Treas. Thos. F. Glennon, Agent

QUISSETT MEANS QUALITY

Cotton Yarn Markets—Continued

prove a very important factor, for there has never been a time since these sales were reported when any considerable volume of yarns could have been bought at these prices.

Today the minimum price for a good white 20s-2 ply warp is 40 to 40½c and for a tinged yarn 39 to 39½c; the minimum for a good white 10s frame spun cone is 37c and for ordinary tinged yarn not less than 36c. Offers for considerable quantities of yarn of these and other counts on a basis about a cent lower have been turned down in almost every instance.

Sales of combed peeler yarns during the last two weeks have been of a considerable volume, and the most notable feature of these transactions has been the directly competitive prices quoted by certain eastern spinners; several good sized sales of mercerizing warps and collar yarns are reported to have been accepted on a basis of 82½c for 58s-2 and 60s-2 warps by both eastern and southern spinners. Leading southern spinners are quoting the same yarns at 85 to 86c for high grades, and most eastern spinners quote a basis of 90 to 95c for super quality. Both eastern and southern spinners also have accepted business for single combed yarns on a basis of around 47c for 18s cones, whereas leading southern spinners want 48 to 50c for high grades, and eastern spinners ask 53 to 55c. The only plausible explanation for this peculiar situation is that certain spinners are willing to take business at any price to the extent of current supplies of cotton, with the hope that they may be able to cover losses thus incurred through favorable purchases of new crop staple cotton.

Chicago Seeks Yarns

Better Demand Noted—Underwear Mills are Buyers

Chicago.—The demand for yarns has continued during the week and the concerns which have been waiting, have found it necessary to come into the market. Most of the large manufacturers are covering for a few months and some are even purchasing further ahead.

Underwear manufacturers report that there is an excellent demand at present, and most of these concerns have had a bigger fall business than last year.

Yarns may still be purchased at attractive levels with 10s-1 carded cones at 36c and 22s-1 at 40c. The market on 20s-2 tubes, white, is around 41c with 30s-2 at 45c and 40s-2 at 56c. There have been good orders on 8s warp twist, tinged, placed at 35c, with white at 36½c to 38c, depending on the quality.

Southern Yarn Bulletin

CHARLOTTE, N. C.—The cotton yarn market bulletin of the Southern Yarn Spinners Association issued last week says in part: The yarn market remains quiet with prices at about the same level as a week ago. Some advances are noted in scattered numbers of carded yarn. Demand is slack, and purchases small and scattered. Actual spinnable cotton is increasingly hard to secure, and at a material advance over New York spots quotations. Curtailment is increasingly in evidence, although some spinners seem still willing to accept business at the prevailing low level of prices. The spinners of Lancashire are now experiencing difficulty in maintaining their schedule of 35 hours per week. Fear is expressed that mills spinning American cotton will increase their working hours beyond their organized short time schedule; thereby increasing their production and at the same time lowering prices in order to dispose of their accumulations. The American spinner is confronted with an identical condition — prices below replacement costs, raw material at a high level, and slack demand. An accumulation of stock, in view of the unsettled market conditions, would be disorganizing.

N. Y. Cotton Yarn Market

(*Continued from page 127*)

of special counts. This is particularly true of the underwear trade. The majority of underwear knitters claim that their buyers are demanding a cut in prices when the new season opens and that there is no incentive, if it is necessary to meet these demands, to buy yarn on the present day's basis. In fact they feel that to do this means an absence of profit if not an actual loss on their product. Of course the situation may improve after the opening takes place dependent upon the buyers' reception of new season's prices. In the meantime the element of uncertainty bulks large in the mind of the knitter and he is not taking any chances on the future that he can avoid.

Effect of Curtailment

So far the program of curtailment, while admitted to be salutary, has not had any particular influence upon the statistical condition of yarn. It is true that in certain numbers that are in demand dealers are finding more or less difficulty in securing shipments from the mill. The consumer however is not complaining very bitterly about any delays that may occur and usually finds he is able to obtain anything for prompt delivery out of stock. It is not admitted that dealers have any surplus of yarn on hand but at the same time contracts made during the last month or two have been of sufficient volume to guarantee ability to ship as the buyer wants the yarn. In certain cases it has been necessary to buy from competitors in order to meet customers' requirements and in other instances manufacturers have bought from neighboring mills enough to carry them along for the time being. As a matter of fact the presence of yarn in the hands of

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Cotton Yarn Markets—Continued

manufacturers has been one of the influences in preventing regularity of prices. The consumer has known that he could find what he wanted from a neighboring manufacturer and usually at figures that could not be met in the open market. Therefore, this demand upon the dealer has not been as insistent as might have been the case had the surplus in manufacturers' hands not been available.

Reports from certain sources indicate that the month of June has not been entirely disappointing as far as the volume of business is concerned. One important house claimed this week that its volume of business for the month was in excess of May and largely ahead of June of last year.

International Style Exhibit

(*Continued from page* 121)

handled conservatively. One outstanding note was the working up of fabric in reverse treatments and in manipulations offered in interesting departures from the severely tailored styles, yet within practical regulations. Some of the most attractive models came under the head of the coat-dress for early fall, a black broadcloth by Drecoll, with facings of white silk, being especially notable for its circular flare set in by sun-burst points. A coat of gray-blue napped fabric introduced a border of self-fabric worked up in small squares in an intricate styling with pleasing effect. Other means whereby self-fabric details were applied as the sole trimming, included tiny slashed borders set on in rows and mitred reverse fabric strips.

The fashion revue was directed by A. Mayer, known to the trade as Mayer "Chic." The list of boxholders included Henri Bendel, Bruck-Weiss, Botany Worsted Mills, Garfield Mills and many representative names from society, the Army and Navy, well known Fifth Avenue firms and those prominent in the garment industry.

Among the American exhibits Mayer Chic's American beauty velvet evening wrap, showing a hand-embossed gold border was a striking contribution, as was Marion Stehlik's orange kashka in ombré treatment. Reps, wool velours, broadcloths and bordered novelties were also conspicious.

One of the most striking exhibits of the evening was the section devoted to children's wear, the Petits-Prim creations from Vienna. These embodied unusual embroideries, drawn-work and delicate hand made details in pastel colorings.

Among the fabric houses which contributed to the style promotion were Bianchini-Ferrier, silks; Botany Worsted Mills, coatings, suitings and dress fabrics; Compton-Richmond, velveteens; Deering, Milliken & Co., coatings; Garfield Mills, coatings and ensemble materials and numbers from the Mallinson collection of Rodier fabrics.

Unsatisfactory Waste Market

Materials not Sold at a Profit—Big Packers Carry Bag

BOSTON.—The cotton waste market shows no improvement. It will require some fundamental change to lift this market out of the rut. Until a clearer view is obtained of cotton prospects for this season wastes are likely to muddle along in rather an unsatisfactory manner. The market is on a dead center. Deliveries of wastes are being made on contract and orders are passing for limited quantities; but in the market itself there is no snap.

The situation in wastes seems none too good. Business is very spotty and values are hard to maintain. Present consumption of mill wastes has been curtailed very considerably and many southern mills have adopted a hand to mouth policy according to a leading exchange member who recently returned from the South where he has a number of consuming clients. The market is irregular with weak spots. The only thing waste traders are agreed upon is the practical impossibility of doing any profitable business either among themselves or with consumers. High contract prices were made at the beginning of the year and about all the stuff arriving shows the receivers a paper loss which would become actual if sales were made. Such is the apathy manifested by mill consumers and even if concessions involving a considerable loss to the seller were made there is little reason to suppose that stocks would move out in volume.

Prices are distinctly nominal. They are weak all along the line. The average dealer is doing practically no business. The few firms that sell on a commission basis can of course make their own price in putting over a sale and they usually do. The big packers are carrying the bag and spinnable wastes are billed in on high contract prices, every pound of which arriving carries prospective loss.

Current Quotations

Peeler comber	21½—22c.
Peeler strips	20 —20½c.
Egyptian comber	20½—21c.
Choice willowed fly	10½—11½c.
Choice willowed picker	8½— 9c.
Sak. strips	23½—24c.
Linters (mill run)	5 — 6c.
Spoolers (single)	15½—16c.
Fine white cop	17 —17½c.

Cotton Waste Notes

The Merrimac Utilization Company, with offices at 99 Chauncy Street, is moving into more commodious premises at 99 Bedford Street. This will make the fourth cotton waste concern quartered on the fourth floor in this building.

* * *

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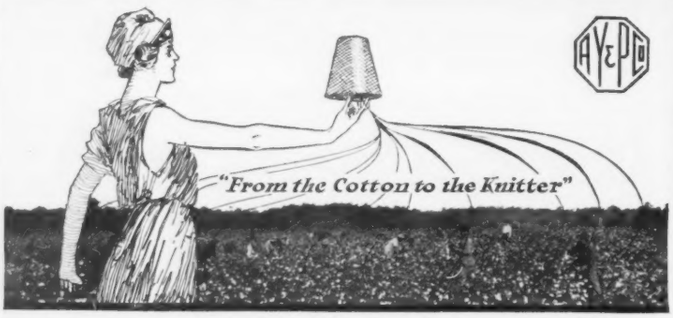

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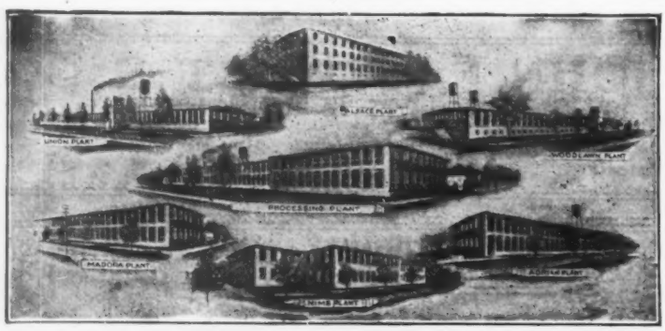

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COTTON MARKETS

Cotton Trade Nervous Over Crop Outlook

Owing to Drouth in Southwest and Boll Weevil in East—Pre-Report Indications

Between the tendency to reduced estimates of the crop, indication and a continuance of drouthy weather in the Southwest, realizing was well enough absorbed to give the cotton market a very steady undertone in advance of the government report. There was a feeling in some quarters that the advance from 21.55 at the low point of last week to 24.17 the high point reached at the beginning of this week, had been sufficient to discount the apparent reduction of about half a million bales in ideas of crop prospects at the end of June. This theory naturally promoted profit-taking, but it was absorbed on comparatively moderate reactions, although fresh buying was probably held in check by the approach of the week-end holiday and uncertainty of weather conditions before the reopening of the market on Monday morning. There were reports of showers in Texas on Wednesday which caused some little irregularity but the precipitation was hardly sufficient to relieve droughty conditions in that quarter and the trade seemed to be preparing to receive the government report at about the 24-cent level for October contracts.

The private crop reports which preceded the government's statement of end-June prospects, reflected the drouth situation in the Southwest and the reduction in the government's par values published during the previous week. In all something like 20 of these reports were issued with the condition figures ranging all the way from 69.2 up to 75.5% of normal. Estimates of the acreage range from about 42,819,000 up to 45,592,000 acres and figures on the indicated crop from 12,604,000 up to 14,600,000 bales. The maximum of these estimates, however, was based on a par value of 208 pounds to the acre and the highest estimate based on the new government's pars was 13,960,000 bales. On the average these reports pointed to an acreage of 44,797,000, a condition of 73.6 and a crop indication of 13,534,000 bales.

A falling off in the condition of the crop during June is quite an unusual occurrence. As a rule, the crop's condition improves between the May 25th and June 25th reports, and the ten-year average condition for June 25th is 74. The ten-year average yield of cotton per acre has been 154 lbs., but owing to the reduction in the par values, a condition of 74 on June 25th this year, would point a yield about 10 lbs. below that figure. In view of this, some in the trade are wondering whether the allowance made in pars for prospective boll weevil damage or other adverse factors, has not been fully sufficient to discount both the boll weevil threat in the East and the deficiency of rainfall in the Southwest. Ordinarily, the trade is rather inclined to accept an end-June crop indication as likely to prove the maximum of the season.

Wednesday's closing quotations in the leading spot markets of the country are given below, with the usual comparisons:

Market	June 24	July 1	Change	Last year	Sales
Galveston	24.50	24.90	+.40	30.00	3,997
New Orleans	23.40	24.00	+.60	29.35	516
Mobile	23.80	24.00	+.20	28.00	.....
Savannah	24.26	24.53	+.27	28.70	299
Norfolk	24.50	24.88	+.38	29.88	1,294
New York	24.20	24.70	+.50	30.90	.....
Augusta	24.44	24.94	+.50	28.75	500
Memphis	24.26	24.25	.....	29.75	775
St. Louis	24.00	24.25	+.25	29.50	.....
Houston	24.25	24.60	+.35	29.60	719
Dallas	24.00	24.60	+.60	29.00	100

Liverpool, 13.91d

The following differences on and off middlings are given as compiled from the reports received by the New York Cotton Exchange. The cotton grades marked** are not delivered on contract:

	Dallas	Memphis	Montgomery	Augusta	Average
WHITE GRADES					
M. E	.90†	1.00†	.88†	1.00†	1.01†
S.G. M.†	.75†	.75†	.63†	.75†	.77†
G M	.63†	.50†	.38†	.50†	.55†
S. M	.38†	.25†	.25†	.38†	.34†
S L. M	.63*	.50*	.50*	.75*	.60*
L. M	1.60*	1.00*	1.00*	1.50*	1.43*
S. G. O.**	2.75*	1.50*	1.50*	2.50*	2.47*
G. O.**	4.00*	2.50*	2.50*	3.50*	3.57*
YELLOW TINGED					
G. M	.50*	.50*	.25*	.25*	.34*
S. M	.90*	.75*	.75*	.75*	.80*
M.**	1.25*	1.00*	1.50*	1.50*	1.48*
S. L. M.**	2.50*	1.50*	2.50*	2.50*	2.44*
L. M.**	3.75*	2.00*	3.75*	3.75*	3.53*
YELLOW STAINED					
G. M	1.65*	1.50*	1.50*	1.50*	1.61*
S. M.**	1.90*	1.75*	2.00*	2.00*	2.11*
M.**	2.50*	2.00*	3.00*	2.75*	2.85*
BLUE STAINED					
G. M.**	1.75*	2.00*	1.25*	1.38*	1.44*
S M.**	2.00*	2.75*	1.75*	1.50*	1.85*
M.**	2.75*	3.00*	2.50*	5.50*	2.65*

Cotton Statistical Data
(Fluctuations of Futures, N. Y.)

	Closed June 25	For Week High	For Week Low	Closed July 1	Chge
July	*23.25	24.17	22.91	23.93	+ 68
Aug.	*23.25	24.15	23.17	*24.15	+ 90
Sept.	*23.28	24.25	24.25	*24.95	+ 77
Oct.	23.33	24.17	23.17	23.96	+ 63
Nov.	*23.40	.....	.....	*24.00	+ 60
Dec.	23.50	24.25	23.39	24.06	+ 56
Jan.	22.96	23.70	22.80	23.49	+ 53
Feb.	*23.10	.....	.....	*23.64	+ 54
March	23.26	24.00	23.12	23.80	+ 54
April	*23.35	.....	.....	*23.90	+ 55
May	23.45	24.22	23.43	24.01	+ 56

*Nominal

Spot Fluctuations for Week (Middling)

	N York	N Orleans	L'pool
Fri., June 26	24.45c.	23.90c.	13.53d.
Sat., June 27	24.60c.	24.00c.	13.88d.
Mon., June 29	24.80c.	24.15c.	13.86d.
Tues., June 30	24.80c.	24.00c.	13.93d.
Wed., July 1	24.70c.	24.00c.	13.91d.
Thurs., July 2	23.80c.	22.90c.	13.78d.

Spot Fluctuations and Stocks

	Prices July 1	Stocks This week	Stocks Last year
Galveston	24.90	73,279	38,702
New Orleans	24.00	87,970	93,487
Mobile	24.00	1,369	1,437
Savannah	24.53	10,489	33,981
Charleston	.....	7,046	14,242
Wilmington	.....	11,238	12,821
Norfolk	24.88	28,641	31,655
Baltimore	25.00	1,288	1,400
Augusta	24.94	18,508	14,097
Memphis	24.25	14,659	36,609
St. Louis	24.25	3,923	4,453
Houston	24.60	87,070	46,676
Little Rock	25.12	2,602	5,680

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Manufactured by
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Worcester, Mass.

Cotton Markets—Continued

Few More Cotton Sales

Vacation Time in South Leaves Market Dull

MEMPHIS, TENN., June 29.—Cotton sales were a little larger than during the previous week but the market was not more active. Merchants who have not yet started on a vacation are preparing to do so, or have gone or are preparing to go to domestic or foreign mill centers. This market was never duller. No forward business, insofar as can be ascertained, is being placed. Some "feelers" are being put out, but inquiry is more in the nature of asking for offers than evidence of willingness to bid. Sentiment here is influenced by the excellent crop prospect, seldom better, of this territory, but bearishness is tempered by reports from Texas. With anything like average weather for the next 60 days, and barring extensive boll weevil damage, this territory should produce one of the best crops in its history. It would not be surprising if Mississippi and Arkansas together should come through with close to 3,000,000 bales; they made 2,220,000 bales last year; the crop of the staple producing areas is relatively best; last year the reverse was true.

Sales during the week were at about unchanged prices. A little more business might have been put through last week except for differences in price ideas. As low as 20c was bid for good style strict good ordinary inch cotton; the owner of this cotton regarded the price as about 250 points under the market, and was not disposed to make concession. Concessions are still being made on very small lots in order to clean up. The weather during the week has been favorable although continued dry; some of the surrounding territory has been relieved by local showers.

Crop Prospects

Returns to the *Commercial Appeal* indicate a condition as of June 25, of 75.3% of a normal compared with 74.2 at May 25; acreage increase 6.1% indicating 45,227,000 acres against 42,641,000 last year. The indicated yield, based on Government pars and the acreage stated, is 13,827,000 bales, exclusive of linters.

Every State, with the exception of Texas, presents a condition above the 10-year average. Texas is far below. With a Texas condition of 75%, the 10-year average for that State, the belt would present a condition around 80% of a normal. But Texas correspondents place the condition of that State at only 62% of normal.

South Carolina is lagging somewhat, but the condition is slightly above the average for the date. The State condition is "spotted." Weevils are threatening, but farmers are using poison freely.

The North Carolina crop is improving, while the condition in Georgia warrants hope that the State may develop a better promise. At the present time it is doing fairly well, although very dry in the north, while weevils are increasing in the south.

The central belt is relatively in best position of any. Much is to be expected of Mississippi, Arkansas, Missouri, Tennessee and Louisiana although boll weevils are beginning to appear in numbers sufficient to become, under conditions favorable for their activity, a serious factor later on.

Oklahoma presently has a good prospect but is handicapped by lack of subsoil moisture.

Fields are, everywhere clean, and stands, as a rule, are good. Rainfall deficiency, while not an unmixed evil, is everywhere the most serious drawback, but especially so in Texas.

Insects are bothering very little. Lice and boll weevils are reported but so far the damage is negligible. Texas complains somewhat of grasshoppers.

June rainfall has been scant. Thundershowers have occurred over most of the belt, but rains were mostly light and ineffective and were local in character. There are a few complaints of too much rainfall.

Temperatures have been about normal or above, in some parts running very high, particularly in the west.

The crop should have good rains during the next 30 days, but excessive moisture would be unfavorable.

Market Statistics

Basis Middling

	Saturday June 27	Saturday June 20
10 Markets average..	24.55	24.55
Memphis	24.25	24.25

Premium Staples

First Sales from Factors Tables at Memphis

Grade Strict Middling	Prices nominal
1 1/8-in.	29@32c.
1 3/16-in.	32@36c.
1 1/4-in.	38@41c.

Current Sales

	For week	Prev. week	Week before
Memphis total.....	775	525	550
F. O. B. included..	659	475	425
10 markets	7,891	9,728	13,521

Memphis Receipts, Shipments, Etc.

	For week	Last year	Year before
Gross receipts....	2,138	3,022	3,924
Net receipts	279	609	231
Totals since Aug. 1 net	426,800	283,265	357,086
Shipments	4,112	5,324	15,645
Total since Aug. 1	1,302,113	934,354	1,098,628
Total stock	15,546	37,770	62,363
Decrease for week	1,974	2,302	1,721
Unsold stock in hands of Memphis factors ...	3,000	4,900	.....

Staple Cottons Quiet

Domestic and Egyptian New Crop Held Above Buyers' Views

BOSTON, July 1.—Both domestic and Egyptian staples have advanced within the last week or ten days rather more radically than prices of domestic futures, but this has been due more to speculative influences than to buying of actual cotton. There is no interest whatever in Egyptians in the local market, but there are cabled reports of rather active buying of new crop Sak. by foreign spinners. In domestic staples spinners are showing no interest

(*Continued on page* 153)

SPINNING mills which produce a uniform even yarn for mercerizing — is one reason for Standard Mercerized yarn quality and knitting economy.

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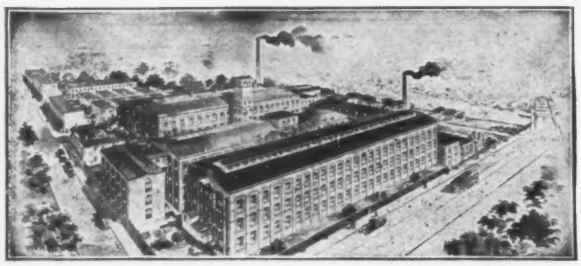
The Chicago cotton contract, providing delivery at Galveston and Houston, the giant spot center, offers many distinct advantages. And cotton farmers, merchants and spinners who familiarize themselves with the contract will benefit from these advantages.

For printed matter and for any specific information, write the Cotton Registrar, Chicago Board of Trade. Literature describing the world grain market may also be had on request.

THE CHICAGO BOARD OF TRADE



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Worsted Yarns
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Trade both in Grey and Mixtures

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Manufacturers of **WORSTED YARNS**
In the gray and in all colors: also fancy mixtures and double and twist
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FINE FRENCH SPUN WORSTED YARNS
Of Every Description for Knitting and Weaving
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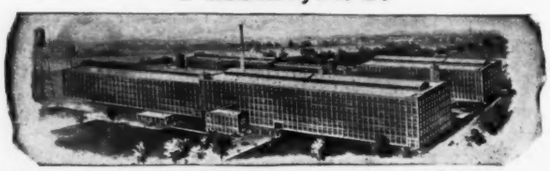

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WORSTED YARN MARKETS

Larger Yarn Inquiry Reported

Large Volume Taken by Knitting Trades—Spinners Raise Quotations—Dress Goods Interest

There has been a continued improvement in demand for worsted yarns, each succeeding week during the past month representing a fair degree of improvement over the previous one. This has been in evidence during the current week, a larger volume of business being booked than last with prices remaining soft in spots but, taken as a whole, considerably firmer, especially in yarns made from medium wools, in which the advance has been more rapid. The entire situation leaves much to be desired from a spinner's standpoint as there are sufficient lots of yarn on hand priced at extremely low figures to prevent them from raising their quotations to any important degree as yet. There are a number of spinners who are quoting prices as low as they named before the recent advance in wools in an endeavor to book immediate specifications.

Spot Lots a Factor

Examples of this have been noted recently in sales of large quantities of men's wear mixtures, at least one spinner taking business in 2-40s half blood mixtures, French spun, at $2.35, or 10c under the market level. Spinners quoting this price have succeeded in booking practically all of this business placed to date as others asked from $2.45 up to $2.60 for similar yarn. They now have orders on their books, which may not show them a profit, but will keep their spindles engaged during the next few months. This week, however, a change has taken place and it is reported manufacturers find it impossible to buy further lots of French spun mixtures at this price, all having raised their quotations to $2.40 at least, while Bradford qualities are quoted at $2.35 to $2.45. Sales have been smaller in size as most mills interested have bought all they desire before the opening of their lines and receipt of actual goods orders.

The outstanding feature of the market is the active character of trading in knitting yarns, both outerwear and hosiery qualities, dealers reporting fair to good business this week from both trades, although competition among spinners is still very keen, orders being taken only after low figures have been named. One of the largest factors in French spun hosiery yarns reduced their prices on all of their yarn sold for immediate or near by deliveries and this has accelerated trading with hosiery mills who are taking advantage of this temporary condition as other spinners are quoting unchanged to higher prices on similar yarn. This spinner has quoted hosiery yarns 15c under the level named by other spinners in an endeavor to liquidate a portion of their stocks of wools and yarns. Both of these examples are typical of the current market and will be in evidence until demand has improved sufficiently to take up all such soft spots among spinners and dealers.

Good Outerwear Interest

Outerwear yarns represent the most active feature of the entire market dealers and spinners experiencing a continuance of fair to good demand from sweater, bathing suit and jersey cloth manufacturers. Spinners specializing in these qualities have raised their asking prices, in most instances, and are refusing to accept business at their old and lower level. Others are willing to book orders at former figures or at $1.25 for 2-20s low quarter, $1.35 for 2-20s 48s quality, $1.40 to $1.45 for 2-26s quarter and $1.50 for 2-30s. They are, however, in the minority and the amount of yarn still available at these low figures is limited and becoming smaller each week, although there remains in spinners' and dealers' possession considerable yarn to be sold before stocks are liquidated completely. A higher grade yarn, being spun from 50s stock, is quoted at $1.45 for 2-18s and as many of these spinners have forward orders in hand they are firm and refuse to lower prices to attract additional business, particularly in view of strength in fleece wools.

Orders have been for immediate delivery with many others being in the form of contracts to run until October. Most active interest during the past three weeks has been from bathing suit manufacturers and this is still in evidence, manufacturers pressing spinners for quickest possible deliveries so that merchandise can be put in retailers' hands as soon as possible. Prices of outerwear yarns are the firmest of the entire list due to improvement in demand and because of the rapid rise in medium wools in this country, quarter bloods rising from 42c to 50c or 51c the latter being paid in sales this week. Spinners display no inclination to force these wools higher and at present are buying only when a dealer willing to shade these figures is found.

BRADFORD TOP AND YARN CABLE

Bradford, Eng., July 1 (Special Cable to TEXTILE WORLD).—Practically no business is passing in tops or yarns. Topmakers are cautious sellers, because it is expected that London will open above Bradford parity. Sixty-fours tops can be had at 50d.; 56s at 32d.; 46s at 21½d.; 2-48s botany yarn from 64s tops are weak at 5s. 9d.

Steadier Yarn Market

Demand for Weaving Yarn Still Unsatisfactory

Boston.—The worsted yarn market is in no satisfactory condition and the long process of adjusting the industry to moving markets in wools and tops is still in progress. Lack of business in volume for weaving yarns is the chief cause of slow adjustment to the situation. This is not under the control of the spinner and he will perforce have to adapt himself to the situation as it is, looking forward to the lightweight opening which is generally expected to bring about a greatly desired and altogether overdue revival in worsted manufacturing.

In weaving yarns there is practically no change from a week ago, some business dribbling in occasionally for 2-40s and 2-50s at slightly firmer prices, contested at every point however; while knitting yarns which for the month of June as a whole have done relatively well, are easing off slightly with a tendency notable among the users of these commodities to utilize yarns made from the high grade ¼ blood, for example. Knitting yarns of 2-18s variety made from 50s have sold recently at $1.40 and 2-26s at $1.47.

A large part of recent business has been on seasonal lines, but there is a tendency to more activity in staples. Low priced offerings of good yarns have about disappeared from the market. The raw material situation is stronger than a week ago. The top market is unchanged. There is every incentive for wool sellers to push up prices but not so for top makers who look at the matter from the manufacturing standpoint and are afraid of checking nascent business on the one hand and being compelled to pay too much for their raw material on the other hand. Some recent quotations in this market cover weaving yarns 2-36s, 58s, $1.80-$1.85; 2-40s, 58-60s, $1.95-$2.00; 2-40s, 60-64s, $2.10-$2.15; 2-50s, $2.35-$2.40. In knitting yarns 2-24s, 46s, is quoted $1.30-$1.35; 2-26s, 50s, $1.45-$1.50; 2-26s, 58s, $1.60-$1.65.

Top Values Sustained

New Business Slower—Camelhair Noils in Larger Demand

Boston.—The top market is quieting down and very little new business of volume has been placed during the last few days. Considerable business was placed during the month of June as a whole but the pace was a little too rapid. Prices for all qualities are held firmly. The market is no longer nominal and the quotations following this report represent the general level on which purchasing is conducted. The market is still under pressure for lower prices but with an advancing wool market top makers have no option but to sustain top values.

Wool demand has switched to the finer qualities but top making is largely the production of medium to low qualities. Tops grading low ⅜ to high ¼ blood are being taken in respectable volume by knitting interests. The call for fine tops from distinctly top making establishments is almost negligible at the moment. As the lightweight season draws near a change will probably be seen in this respect.

There is a stabler market in noils and prices are now real rather than nominal. Fine noils in particular are quite strong and the advance in fine noils is now equal to the advance in wools. Noils and wools move quite closely together, noils following wool up or down as the case may be. There are no really fine noils to be had

Quotations

(Corrected to Close of Business Wednesday)

Bradford System

2-12s, low com. (36s)	1.25 -1.30½
2-16s, low com. (36-40s)	1.27½-1.32
2-20s to 2-24s, low ¼ (44s)	1.30 -1.35
2-20s to 2-26s, ¼ bld. (46-48s)	1.35 -1.45
2-26s to 2-30s, ¼ bld. (48s)	1.40 -1.50
2-30s to 2-32s, ¼ bld. S.A. (46s)	1.45 -1.55
2-32s, ¼ bld. (48-50s)	1.60 -1.65
2-20s, ⅜ bld. (56s)	1.60 -1.65
2-26s, ⅜ bld. (56s)	1.65 -1.70
2-36s, ⅜ bld. (56s)	1.70 -1.75
2-32s, ½ bld. (60s)	1.90 -2.00
2-36s, ½ bld. (60s)	1.95 -2.05
2-40s, ½ bld. (60-64s)	2.00 -2.10
2-50s, high ½ bld. (64s)	2.15 -2.20
2-50s, fine (66-70s)	2.25 -2.35
2-60s, fine (70s)	2.95 -3.05

French System

20s, ¼ bld. (48s)	1.50-1.60
20s, high ¼ bld. (50s)	1.60-1.70
20s, ⅜ bld. (56s)	1.75-1.80
30s, ⅜ bld. (56s)	1.80-1.85
30s, ½ bld. (60s)	1.85-1.90
40s, ½ bld. (60-64s)	2.00-2.10
50s, (66-70s)	2.35-2.45
60s (70s)	3.05-3.15

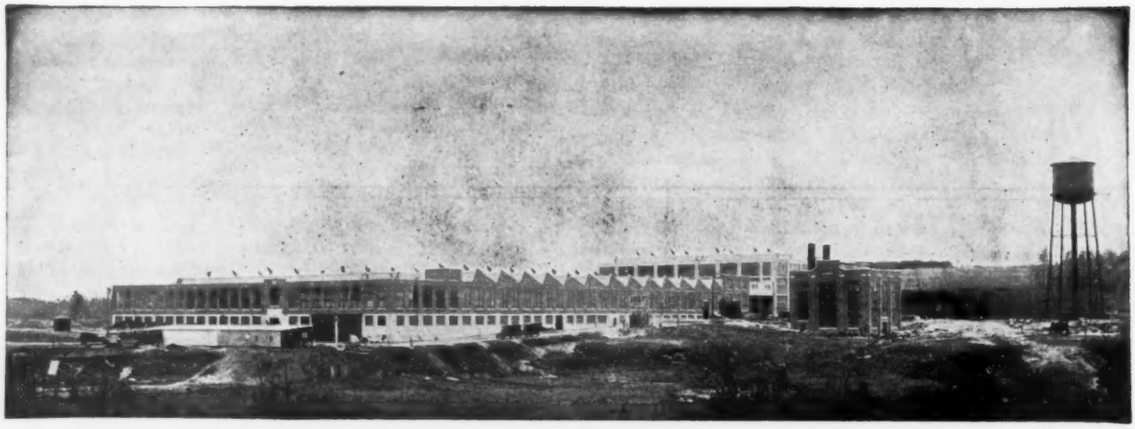
Knitting Yarns in Oil (Bradford)

2-20s, low ¼ bld. (44s)	1.30-1.35
2-18 to 2-20s, ¼ bld. (48s)	1.37-1.42
2-26s, ¼ bld. (48s)	1.43-1.48
2-30s, ¼ bld. (48s)	1.47-1.52
2-20s, ⅜ bld. (56s)	1.65-1.70
2-20s, ½ bld. (60s)	2.05-2.10

French Spun Merino, White

30s, 50-50	1.60-1.65
30s, 60-40	1.73-1.80
30s, 70-30	1.85-1.90
30s, 80-20	1.95-2.05

BRANCH RIVER WOOL COMBING CO., INC.



COMMISSION COMBERS

Works:

NORTH SMITHFIELD, WOONSOCKET, R. I.

Boston Representative:

Frank L. Sutcliffe, 263 Summer Street

Worsted Yarn Markets—Continued

under $1.10 according to one trader on the street. Offerings below this price are in his opinion "fine until you look at them."

Far-sighted mill consumers not over-certain of the ability of domestic worsted manufacturers to provide reasonably large quantities have been buying in the Bradford market at prices on a par with domestic values. In specialty materials there is a freer movement, though on a limited scale as might be expected. Cashmere noils are very scarce. An import of 33 bales of recombed camel hair noils arrived in this city last week. Purchasing in the Bradford market continues. America is paying as high as three shillings and six pence for 64s noils which would mean a landed cost of $1.03 with charges and profits to the importer to be added. Noils grading 58s are being bought at a price that would mean 85c landed. A demand for carbonized noils is also appearing and Bradford 60s have been sold to arrive at $1.05; 64s at $1.14; and 70s at $1.20.

Current Quotations

Tops	
Fine (64–66s)	$1.65–$1.66
Half-blood (60–62s)	1.50– 1.52
High ⅝ blood (58s)	1.27– 1.28
Aver. ⅝ blood (56s)	1.22– 1.23
Low ⅝ blood (52–56s)	1.17– 1.18
High ¼ blood (50s)	1.10– 1.12
46s	1.02– 1.03
44s	.97– .98
40s	.93– .95
36s	.93– .95
Noils	
Fine	$1.05–$1.10
Half-blood	.95– 1.00
High ⅝ blood	.88 .92
Aver. ⅝ blood	.83 .87
Low ⅝ blood	.68 .70
High ¼ blood	.60 .65
46s	.53 .58
44s	.48 .52
40s	.45 .48

RAYON AND SILK YARNS

Imports of Rayon are Gaining Again

Hope That it Will Alleviate Present Shortage—Weavers Seeking Supplies

Conditions in the rayon market are reminiscent of the situation that existed during the winter months. An actual scarcity of all wanted sizes and grades exists and even in the 300 denier where there has been a surplus, the situation is beginning to favor the seller. One ray of light that users can see is the fact that imports are again tending to increase after a period when they were much restricted due to the desire of Continental producers to get all the yarn into England that they could before the import duties went into effect. Importers state that they will shortly be receiving more substantial quantities from their foreign connections. In some cases there has already been an increase in the amounts coming to this country. England by the way has noted an almost phenomenal increase in imports of silks and rayon yarns and manufactures. While the actual details of the new import duties were a surprise to business men, it was known that it was the Government's intention to levy some sort of tax and the influx of incoming goods started early this spring. Rayon yarns for instance show a jump in imports from £1,770,000 during the first five months of 1924 to £3,460,000 during the first five months of 1925.

The increase in the demand for rayon yarns in this country last month is most satisfactory to producers here. While sellers are perhaps not entirely desirous of a return of the serious shortgage that existed some months ago, they are well pleased with the way that consumption has been increasing of late. According to reports there has been a sharp increase in the call for spot rayon from the cotton mills in both the southern section and in New England. Broadsilk mills likewise are understood to be increasing their requirements for the fall season and with the rayon velvets and fur fabrics coming into the fashion limelight for the coming season, they also will need the coarser sizes, stocks of which have already begun to disappear

Prices are unchanged as follows:

	A Quality unbl'ched	B Quality unbl'ched	C Quality unbl'ched
60 Denier..	$3 40	$3 15	.....
70 Denier..	3 25	3 05	.....
80 Denier..	3 10	2 90	.....
90 Denier..	3 00	2 80	.....
100 Denier..	2 90	2 70	$2 50
120 Denier..	2 45	2 30	2 10
130 Denier..	2 25	2 10	1 90
150 Denier..	2 00	1 90	1 80
300 Denier..	1 75	1 65	1 55

Combination yarn prices are as follows:

80 Denier Cellulose

3 ends 13/15 double extra A raw silk	$4 80
4 ends 13/15 double extra A raw silk	5 00
5 ends 13/15 double extra A raw silk	5 15

150 Denier Cellulose

1 end 13/15 double extra A raw silk	3 05
2 ends 13/15 double extra A raw silk	3 40
3 ends 13/15 double extra A raw silk	3 60

Spun Silk Firm

Sellers Note Good Demand for Both Singles and Ply Yarns

Taking its cue possibly from the stronger trend of the raw silk market, spun silk has been active and firmer. Sellers commented on the good demand for all classes of yarns, with singles and ply sharing in the interest of buyers. If anything the singles were slightly more active than the ply yarns, being wanted for the fall fabrics. Deliveries called for July, August, and still further ahead in some cases with many mills calling for immediate shipments. Little was heard of any large business placed in schappe during the week despite the

Pocasset Worsted Company, Inc.

Worsted Yarns

Office and Mills — Thornton, R. I.

WORSTED YARNS — GRAY AND FANCY SHADES — BRADFORD — STEEL — SYSTEM — TWISTS AND MIXTURES — WEAVING - KNITTING

WARNER J. STEEL

Successor to EDWARD T. STEEL & CO.

Mills and Office — BRISTOL, PA.

PHILADELPHIA SILK THROWING CO.

Commission Throwsters

of a higher order

RAW SILK and RAYON COMBINATIONS

"In the Heart of the Hosiery Industry"

Rates no Higher For Superior Service

Randolph and Jefferson Sts. PHILADELPHIA, PA.

Mohair and Worsted

LOOP and NOVELTY YARNS

Massachusetts Mohair Plush Co.

200 DEVONSHIRE ST., BOSTON, MASS.

Mills at Lowell, Mass.

ART SILK TOPS and NOILS

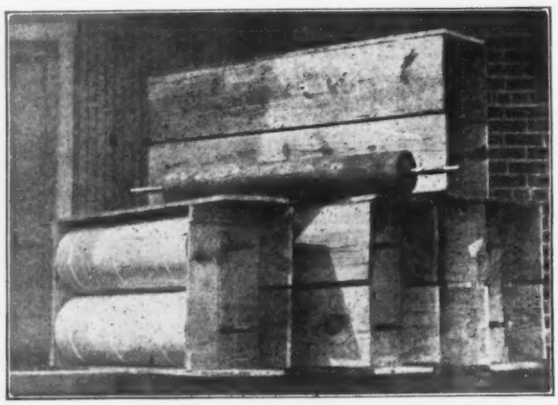
S. FEATHER CO.

110-16 Erie St., Camden, N. J.

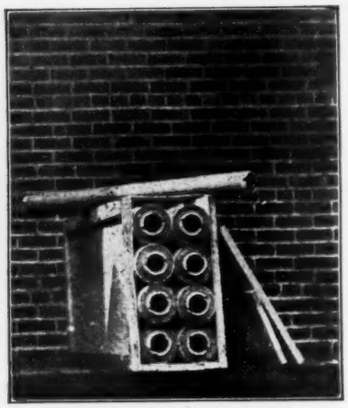
O. J. CARON

WORSTED AND WORSTED MERINO YARNS

166 W. JACKSON BLVD., CHICAGO



THE CLUMSY SHIPMENT
HEAVY BEAMS



THE HANDY SHIPMENT
DUPLAN SHELLS

—both contain the same quantity of silk

Compare the two shipments pictured above.

A simple metal-tipped paper shell, easily applied over any 2 3/4" wooden core at the loom, takes place of heavy wooden beam in shipment. Saves 30 to 60% of transportation charges—60 to 80% of packing charges. No loom beams in transit. No delay.

Our facilities and experience are at your service for winding, warping, copping, coning, and throwing of real silk or artificial silk.

COMMISSION WORK DEPARTMENT

Hazleton, Pennsylvania — 135 Madison Avenue, New York City

DUPLAN
SILK CORPORATION

OSCAR HEINEMAN CORPORATION

RAW & THROWN SILK

ARMITAGE, FAIRFIELD AND WASHTENAW AVENUES

CHICAGO

WORSTED AND MERINO
J&D FRENCH SPUN YARNS
FOR KNITTING AND WEAVING
Manufactured by
JULES DESURMONT WORSTED CO.
WOONSOCKET, R.I.
PHILADELPHIA PROVIDENCE BOSTON
THOMAS H. BALL
SELLING AGENT
NEW YORK MILWAUKEE CLEVELAND

WILLIAM RYLE & CO.
381 Fourth Ave. New York
Cor. 27th Street

Thrown Silk Yarns
For Silk, Woolen Worsted Cotton and Knitting Mills

Star Worsted Company
YARNS
FITCHBURG MASS.

Fine French Spun Worsted Yarns
for Knitting and Weaving
VISCOSE SILK YARN
NEUBURGER & CO., INC.
Established 1866
124 Fifth Avenue, New York
Sole United States Selling Agents for
Schachenmayr Mann & Co., Salach, Germany
Kammgarn Spinnerei Bietigheim, Germany
Textilwerke C. G. Schoen, A. G. Sosnowiec, Poland
Spinstofffabrik Zehlendorf, Berlin, Germany

WM. H. RICHARDSON
WORSTED YARNS

JOS. M. ADAMS COMPANY
Manayunk, Philadelphia, Pa.
Spinners of
WORSTED YARNS
(Bradford System)
for Weavers and Knitters

Rockwell Woolen Co.
Leominster, Mass.
Manufacturers of
WOOLEN and MERINO YARNS
FOR WEAVING and KNITTING
Heather a Specialty Mixtures and Decoration Yarns

Rayon and Silk Yarns—Continued

slump in Lire exchange which carried it to the lowest point of all time. Prices are as follows:

(2% 10—net 30 days)

60—2	$6.00	30—2	$5.20
50—2	5.75	20—2	4.80
40—2	5.45	60—1	4.75

Thrown Silk Higher

Strong Situation Exits in Market With Throwsters Well Sold Up

The thrown silk market has responded to the strength in raw silk prices with a rapid advance of its own. As a matter of fact the rise in the yarn quotations was even greater than the raw silk advance would seem to justify. The situation, however, was aggravated by actual scarcity of spot quantities of thrown silk so that dealers found no difficulty in getting their asking prices from hard pressed manufacturers. Advance business placed by silk mills for second half of June and July deliveries appears to be heavier than most market observers realized. The result is that with weaving operations increasing again throwsters are nearly sold up.

Demand was more general than for some time with a considerable inquiry for organzine noted. Despite a reported let up in the demand for georgette in the greige, dealers continue sold up on the two thread constructions for a month or more to come. Other crepe yarns were wanted, particularly four thread which was generally quoted around $7.75.

(60 days basis)

Japan Organzine 2 thd Crack XXA in skeins	$8.00
Japan Tram 3 & 4 thd in skeins	7.25
Japan Tram 5 thd on cones	7.15
Japan Crepe 3 thd on bobbins 65 turns	7.80
Japan Crepe 2 thd XXA on bobbins 70 turns	8.50
Canton Crepe N S 14/16 4 thd on bobbins	7.35 (nom)

Rayon Notes

May Imports of Rayon and Manufactures

Imports of rayon and manufactures in May, 1925, totalled 784,711 lbs., valued at $674,854, as against 540,769 lbs., valued at $404,197 in May, 1924. Imports for the 11 months ending May, 1925, totalled 9,756,891 lbs., valued at $7,717,080, as compared with 6,231,796 lbs., valued at $6,965,875 during the 11 months ending May, 1924.

The imports for the month of May, 1925, included 736,376 lbs. of rayon yarn, waste and threads, valued at $513,595, and 48,335 lbs. of other manufactures of rayon, valued at $161,259. The imports for the corresponding month of 1924 included 513,193 lbs. of rayon yarn, waste and threads, valued at $281,807, and 27,576 lbs. of other manufactures of rayon, valued at $122,390.

The imports for the 11 months ending May, 1925, included 9,087,803 lbs. of rayon yarn, waste and threads, valued at $5,305,184, and 669,088 lbs. of other rayon manufactures, valued at $2,411,896. The imports during the corresponding period ending May, 1924, included 5,687,733 lbs. of rayon yarn, waste and threads, valued at $5,191,513, and 544,063 lbs. of other rayon manufactures, valued at $1,774,362.

* * *

Process to Make Rayon Non-Combustible

It is reported that Armand Wolff, of Paris and Brussels, has purchased the rights to a new chemical process to make rayon yarns and fabrics absolutely non-combustible. It is understood that a syndicate is being organized in the United States to handle the American rights of the process on a royalty basis. In addition to making rayon non-inflammable, it is claimed that the chemical treatment adds more solidity and brilliance in a minimum of time—and that the resulting thread is better able to resist action of acids, alkalies, light, washing, and hot irons.

Non-inflammable processes on cotton have been developed but this is the first method applied to rayon which has attracted attention.

Incidentally this brings to mind the classic story that when artificial silk was first introduced into France, the Chardonnet or nitro-cellulose product was offered for sale without denitration. Result: A woman wearing an artificial silk dress; a cigarette; and consequent damage to dress and woman.

A law was passed in France against the rise of artificial silk—and denitration became a necessary evolution in the process.

* * *

New Yarn Firm

F. E. Wilson, for many years identified with the cotton yarn trade in Philadelphia, having been knitting yarn representative in Philadelphia for James F. White & Co., and later connected with J. B. Jamieson Co. of Boston, and more recently H. S. Rich & Co. of Providence, has formed a partnership with J. W. Saturday, formerly with Page Madden Co. They will operate under the name of Wilson & Saturday, with offices 344-45 Bourse Building. They are the direct representatives of the Read & Lovatt Mfg. Co. (with mills at Wealerly, and Palmerton, Pa.) commission silk throwsters, artificial silk and cotton yarns, imported and domestic, as well as combination yarns, of all kinds. Because of their long connection with the trade, both Messrs. Wilson and Saturday have a wide acquaintance among the manufacturers.

TRENTON, N. J. The Rayon Processing & Warp Sizing Co., 297 Main St., has been organized to process yarns and fabrics of all kinds, and in all ways to handle and deal in silk, artificial silk, wool and other textile fabrics. The capital stock of the company is $50,000, par value $100. Henry Smith, Charles W. Yenny, and Veranda Cerce, all of Paterson, hold a total of ten shares.

Manufacturers of HOSIERY TRAM

Artificial Silk on Cones

Artificial Silk twisted with Raw Silk

Artificial Silk twisted with Worsted

VAN STRAATEN AND HAVEY, Inc.

Artificial Silk twisted with Cotton

Mercerized Cotton twisted with Raw Silk

Sample Cones sent on Request

137 Berkley St., Wayne Junction
PHILADELPHIA

New York Office: 389 Fifth Ave.

Boston Representatives: Perkins & Boland, Inc., 80 Federal St., Boston

RANDOLPH YARN CO.
RAYON

FAST and REGULAR COLORS for WEAVING and KNITTING
COPS - SKEINS - CONES
Randolph & Jefferson Sts., Phila.

PFINGST YARNS
MADE BY A KNITTER FOR KNITTERS

COMMISSION THROWING

Our service includes throwing and winding on cops or cones, the following:

150 denier Rayon.
150 denier Rayon and 1, 2 or 3 ends of Japan Silk.
2 and 3 thread Japan Silk.
150 denier Rayon and 50/1 Worsted.
60/2 C. P. Mercerized and 1, 2 or 3 ends of Japan Silk.
Combination Yarns of all kinds thrown for Customers.

GEO. B. PFINGST, Inc.,
302 Chestnut St., - Phila., Pa.

Silk, Rayon, Rayon and Silk

MONARCH SILK CO.

THROWN SILK, ART SILK AND COMBINATION YARNS FOR THE HOSIERY AND KNITTING TRADE
ALSO COMMISSION WINDING, CONING & TUBING

1641 HANCOCK STREET PHILADELPHIA, PA.

Mr. I. Kno-Wool says:

"Sales are the children of Quality and Price."

Send for Samples

The BASCH & GREENFIELD Co.

REWORKED WOOLS

Home Office and Mills, Newark, N. J. — *Established* 1872 — Phila. 114 Chestnut St.

Philadelphia Wool Scouring and Carbonizing Co.

WOOL

Scoured and Carbonized

Freight Address: Coral St. Sta., P. & R. R. R.
Somerset and Trenton Ave., Phila., Pa.

EAVENSON & LEVERING CO.

Scouring AND Carbonizing { *of* } WOOL AND NOILS

The Standard of Workmanship

Storage and Forwarding — **CAMDEN, NEW JERSEY** — Philadelphia and Reading Railway Sidings

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We Specialize in

ARTIFICIAL SILK TOPS, NOILS & CARDED WASTE

Colored or white threads carded or combed as required on commission. Samples mailed on request. Phone 4511 Passaic.

GARTH MFG. CO.

72 Summer St., Passaic, N. J.

Line at Side Actual Size

AT LAST, A REAL MOTH DESTROYER AND PREVENTATIVE

EDGAR A. MURRAY'S MOTH DOOM sprayed directly on Wool, Yarns, Finished Cloth, Rugs, etc., not only destroys all worms and larvae, but leaves a preventative against future attack.

Will not stain the finest fabric.

Guaranteed ABSOLUTELY.

NO RIDDANCE — NO PAY

For full particulars apply to

HAINSWORTH SUPPLY COMPANY

2411 N. 6th St., Phila., Pa.

ROACH DOOM — RAT DOOM

ALL STEEL **ECONOMY** FIRE PROOF

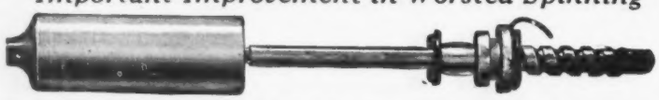
BALING PRESSES

ALL SIZES FOR ALL PURPOSES

LARGEST LINE BUILT IN U.S.A.

ECONOMY BALER CO., Dept. J, ANN ARBOR, MICH., U.S.A.

Important Improvement in Worsted Spinning



Dustproof and Self-Lubricating Spinning Tube

saves oil, prevents clogging with dust and lint, thereby insuring longer life to the tubes, saves labor, maintains uniform speed, *and most important of all,* makes PERFECT YARN.

JAMES H. SMITH CO. - - *Providence, R.I.*

Successors to BAMFORD & SMITH CO.

STEEL CAPS, SPINDLES, TUBES AND FLYERS—Manufactured and Repaired.

J. J. REUTLINGER

160 FIFTH AVE. MOHAWK BUILDING NEW YORK

Wire Heddles — Mill Supplies

FALSE REED WIRES

Hard Paper Spools and Quills

Card Stamping and Repeating

FOR ALL TEXTILE FABRICS

Repeating for Throw Overs for Fine and French Index

Walter W. Hodgson, Inc.

15-17 W. Lehigh Ave. PHILADELPHIA

M. Salter & Sons

WOOLEN RAGS

REWORKED WOOL

Custom Carbonizing and Picking

Chelsea, Mass.

SPINNING, SPEEDER *and* MULE ROLLS

RENECKED, REFLUTED AND HONED

NEW FLUTED ROLLS OF ANY SIZE MADE TO ORDER

George A. Bates Flute Raising Machine patented June 25, 1907; for raising worn out Drawing Rolls like this or comber Detaching Rolls.

WORN ROLLS MADE NEW

Returns the Rolls with worn ends of delivery to the original size of new roll. Guaranteed not to change draft of roll.

Speeder Spindles Flyers and Pressers repaired or new ones made to order.

A. G. BATES & SON — 876 Broadway, Fall River, Mass.

GORDON BROTHERS, INC.

HAZARDVILLE, CONN.

Reworked Wool, Wool Waste

Custom Carbonizing by Dry Process

MACUNGIE SILK COMPANY

Macungie, Pa.

For binding Cotton and Woolen Bed Blankets.

Bindings and Ribbon

Go-Cart Covers, Kimonas, Bath Robes, etc. Special Colors or Shades made to order.

FRANKEL BROS. & CO.

42-48 Commercial St., Rochester, N. Y.

OUR SPECIALTY: We grade new woolen clippings ready for the picker. Write for samples and prices. Correspondence solicited.

WOOL MARKETS

High Wool Prices Held in Boston

Delaine at 56c—On Eve of London Opening Trade Confident of Its Position

BOSTON.—The wool market holds firm. The latter half of the week was marked by increasing quietness on the approach of the holiday and the opening of the London sales next Tuesday. The trade is generally optimistic believing that there is a big demand for cloth to be filled and that it is only a question of limited time when business will appear in much larger volume.

Boston wool trade opened this year with the smallest inventory for several years. Arrivals of domestic wool into Boston for year to date are approximately 40% smaller than for a similar period last year. This however does not show the situation as it really is. Large quantities of territory and Texas wools never come into the Boston market but are shipped direct to various Massachusetts and other New England mills.

High prices continue to rule wherever Eastern buyers are in the western market for wools. Early wool contracts made months ago are now being justified by a rising market on later purchases with every prospect of a profit being shown on the purchases made before shearing. The trade is also greatly encouraged by signs of manufacturing revival and by movement out of bond of considerable quantities of Australian and South American wools. Domestic growers also are getting better prices week by week and in some sections promise to do as well or better than their neighbors who sold their wools at strong prices months in advance of shearing.

The situation in Australian wools in the Boston market has also shown considerable improvement. Confident buying by two or three manufacturing concerns has taken about 5,000 bales out of the probable stock of 20,000 bales in bond and at good strong prices. The wools purchased graded 60s, 60-64s, and 64s, and while it is not possible to state actual prices paid it is probable that the range was $1.10-$1.20. One large concern purchased 3,000 bales.

Delaine wool is selling in this market around 56c. A year ago at this time it was about 52c and at that time Australian 64-70s were quoted in bond around $1.25 as compared with $1.20 at this time. Strong prices for domestic wools of this type are assisting the situation in Australians in this city and as the amount is quite limited, and in view of growing optimism in manufacturing circles, higher prices for Australian wools are quite likely. When it comes to a grade like Australian 70s it is open to question whether there are more than 300 bales of this wool in Boston.

Fine scoured wools are on the whole in much better demand than fine combing wools. There is however very little speculation in these commodities and the rise has been on mill buying. Grades from fine to ¾ blood are in demand. Fine scoured territory has sold quite recently at $1.25 per pound. There are fine clothing wools held on the street of Montana origin priced around 35c with a high shrinkage of 72% which is $1.25 clean. A mill doing its own scouring could presumably pay this high price for the wool which is distinctly a clothing wool and too short even for French combing. But where a concern has to buy this wool to scour and sell at a profit the operation seems too hazardous to be attempted. For sorting, scouring and freight 3c a pound would have to be added which would make the cost of the scoured wool fractionally under $1.36.

Summer Street is positively in need of larger wool supplies. Houses with large overhead must of necessity handle large volume of wool and the smaller the profit the larger the volume required.

Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended June 27 with totals for year to date as compared with those of a similar period in 1924, based upon data compiled by the Market News Service of Bureau of Agricultural Economics, Department of Agriculture, are as follows, in pounds:

RECEIPTS AT BOSTON SINCE JAN. 1

	Week Ended June 27	1925	1924
Domestic	6,048,000	44,870,000	76,575,000
Foreign	1,430,000	102,201,000	79,334,000
Total	7,478,000	147,071,000	155,909,000

IMPORTS AT PRINCIPAL PORTS

Boston	1,430,000	102,201,000	79,334,000
Philadelphia	2,914,000	45,650,000	40,884,000
New York	2,484,000	38,444,000	45,383,000
Total	6,828,000	186,295,000	165,601,000

BRITISH WOOL CABLE

Bradford, Eng., July 1 (Special Cable to TEXTILE WORLD).—Business at standstill in Bradford pending London wool sales next week. At this series the total offerings will be 136,500 bales, including 51,000 New Zealand and 20,000 South American. Fairly good demand is expected, owing to lightness of users' stocks here and on Continent. Hardening tendency at English wool fairs for finer sorts.

Quotations

(Corrected at close of business on Wednesday)

Ohio, Pennsylvania and West Virginia

Fine delaine	55—56
Fine clothing	46—47
½ blood	52—54
⅜ blood	51—54
¼ blood	50—52

Michigan and New York

Fine delaine	51—53
Fine clothing	45—46
½ blood	50—51
⅜ blood	50—52
¼ blood	48—51

California
(Scoured Basis.)

Northern, 12 mo.	1.25—1.30
Sp'g middle counties	1.10—1.15
Southern, 12 mo.	1.05—1.10
Fall free	1.00—1.05
Fall defects	.90— .95
Carbonized	1.05—1.10

Texas
(Scoured Basis.)

Fine 12 mo.	1.30—1.35
Fine 8 mo.	1.15—1.20

Pulled—Eastern
(Scoured Basis.)

A.A.	1.29—1.35
A-Super	1.15—1.20
B-Lambs	.95—1.00
B-Super	.95—1.05
C-Super	.80— .85
C'bgs fine	1.10—1.15
Medium B	.97—1.03
Medium C	.80— .85

Montana, Idaho and Wyoming
(Scoured Basis.)

Staple fine	1.30—1.35
Do. ½ bld.	1.20—1.22
Fine & fine medium clothing	1.20—1.22
⅝ blood	1.05—1.08
¼ blood	.95— .98

Utah

Fine	1.28—1.32
Fine medium	1.15—1.20

Colorado, and New Mexico

Fine	1.25—1.30
½ blood	1.10—1.12
⅜ blood	.95—1.00

Nevada
(Scoured Basis.)

Fine	1.25—1.30
Fine clothing	1.15—1.18

Mohair
Domestic

Best combing	73—79
Best carding	63—70

Foreign (In Bond)

Turkey Fair av.	50—52
Cape Firsts	42—43

Foreign Clothing and Combing
(In Bond.)

Scoured Basis—Cape (nominal):	
Super 12 months	1.12—1.18
Super 10-12 months	——
Australian:	
70s	1.22—1.30
64s	1.12—1.18
58—60s	.90— .94
Grease Basis:	
Montevideo:	
58—60s	46—48
56s	44—46
50s	41—43
Buenos Aires:	
44s	32—34
40s	30—31

Foreign—Carpet
(Grease Basis in bond)

Aleppo: Washed	45—47
Angora:	23—24
Awassi: Washed	41—42
Karadi: Washed	41—42
China: Combing	32—33
No. 1 W'ld ball	42—45
W'ld filling	28—32
Szechuen ass't	28—30
Cordova	26—28
Khorassan: White, 1st clip	28—29
2nd clip	21—22
Mongolian: Urga	38—40
Manchurian	33—35
Black Face	28—29
Servian skin wool	31—33
East India: Kandahar	42—43
Vickan'r	45—50
Joria	46—50

Less Wool Activity

Market Displays a Waiting Attitude—Prices Unchanged

PHILADELPHIA.—Demand has been less active and while prices are no lower, several dealers have lowered their asking-prices slightly from the highest level, being willing to sell quarters at 50c for which they were asking 52c a week ago. Manufacturers and spinners have withdrawn from the market to a large degree and only display interest when they are offered a bargain lot, their ideas being 48c to 49c for best combing quarter blood, as the top. Trading has reached a point where a breathing spell is necessary before renewed buying develops as many spinners have already bought heavily and have wools to last them for the next two months and are not inclined to speculate further at today's price level. Many are waiting for results of London and Australian sales before making new commitments, renewed purchasing being expected if higher figures are paid at these sales.

Territory wools are salable at three to five cents above fleece wools, clean basis, it being possible to secure 95c for quarter territory in comparison with 88c to 90c for fleece with similar differences in other grades. Medium territory wools are scarce in this market. Three-eighths fleece wools are selling at 51c or $1.00 clean while territory has sold at $1.05. These figures are unchanged from a week ago. Sales of bright quarters have been made this week however at 50c, one concern selling 30,000 at this figure, costing 88c clean; three-eighths Indiana was sold at 51c, while fine clothing moved at 45c and braids at 42½c. Delaines have not been active no sales being reported, asking-prices ranging from 55c to 56c. Less activity is also noted in the fleece sections, although owners there have not reduced their ideas.

Pulled Demand Small

Pulled and scoured wools have become dull. Sales between dealers as well as sales to mills have fallen off considerably during the past two weeks. Although there has been no change in dealers' asking prices these wools are not as strong, a dealer stating he offered a lot on the street and no one offered within 15c of the price he had recently secured from a manufacturer. It is difficult to secure $1.00 for the best B supers and few mills will pay more than 90c for average at this time. Woolen mills have bought fairly heavily during past two months and are content to await further developments here and abroad before displaying further interest. This condition together with that in grease wools indicates the market, while not weak, is slightly less firm than two weeks ago.

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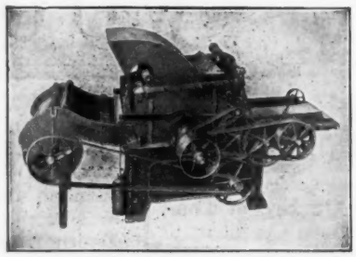

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Then, too, machine has an improved condenser which is non-clogging. Picked stock is always in sight of operator and easily removed.

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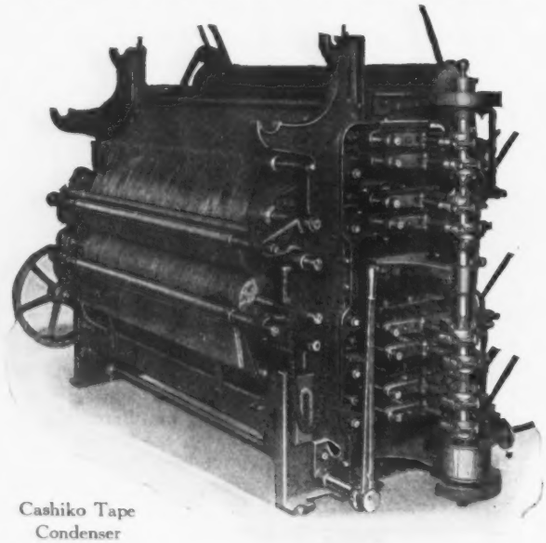

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Applied to All Makes of Woolen Cards

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MAIN OFFICE & WORKS

3100 Burleigh St., Milwaukee, Wis.

Rags, Substitutes and Waste

Substitute Market Holding Quite Firm

Seasonal Dullness as the Worsted Season Approaches—Woolen Rags Irregular

At a time like this when a seasonal dullness is natural enough it cannot be expected that manufacturers of reworked wools should be receiving the business and turning out the large production which featured the early months of the year. There is nothing however in the situation to cause any uneasiness to those who process old woolen rags and clips.

The outlook is for normal business which however may be effected to the degree that worsted manufacturing comes back next season. Determined effort will be made by the large organizations with idle spindles running into hundreds of thousands to secure cloth orders for their machinery. The number of worsted spindles idle in the United States for April was 968,773 or about 37% of the total worsted spindles in the country. This indicates a serious situation in worsted fabrics and the forthcoming lightweight showing will not only be attractive in appearance, but will be priced just as low as possible in order to turn the current of the goods market into worsted channel of wool manufacture. If this development should occur it would probably bring about some diminution in orders for woolen fabrics and so affect consumption of reworked wools.

The rag market has not recovered its equilibrium. The maintenance of values is a difficult proposition except in the case of a few domestic rags that are in favor with the woolen mill and reworked wool manufacturer. There is an uneasy feeling that the market may sink to lower level; but if all the facts were known it might appear that there was some good buying going on under the surface and at fair prices. Grading is slow, restricted and unsatisfactory on account of the large percentage of rags that have been carried into stock by the grader. Mixed softs are firmer. Rough cloth shows no particular recovery.

The wool waste market is relatively high as compared with its natural base in the wool market. There seems however little doubt of the essential soundness of the situation at the moment and the largest holders on the street state positively that higher prices are in order. Two or three factors have to be taken into account in understanding the situation in a large way. The first and most important is that the output of desirable wastes from the worsted section of wool manufacturing shows no recuperation and is on the whole distinctly sub-normal. This has been the condition for many months. A further factor of importance is the limited amount of waste held in the warehouses of consuming mills. A third factor lies in the possession of the limited accumulation of desirable wastes by strong holders. The tendency of the market therefore is upward.

Quotations

(Corrected at close of business Wednesday)

Wool Waste

Lap—	
Fine White	$1.35—$1.38
Fine Colored	1.10— 1.12
Medium Colored	.55— .60
Ring—	
Fine Australian	1.30— 1.32
Fine Domestic	1.25— 1.28
Thread White Worsted—	
Fine	1.03— 1.05
½ Blood	.85— .90
⅝ Blood	.75— .80
¼ Blood	.58— .60
Low	.45— .48
Thread Colored Worsted—	
Fine	.42— .43
½ Blood	.38— .40
⅝ Blood	.30— .35
¼ Blood	.29— .32
Low	.27— .28
Carpet	.21— .23
Card—	
Fine White	.58— .62
Medium White	.45— .50
Fine Colored	.20— .22
Medium Colored	.10— .12

Reworked Wool

	Cents per lb.
Serges—	
Blue	29—30
Brown	28—30
Green	29—31
Red	32—33
Black	24—25
Knits—	
White	70—75
Red	41—42
Brown	36—38
Merinos—	
Fine light	37—39
Fine dark	18—20
Coarse light	24—25
Worsted Skirted—	
Light	23—24
Blue	21—22
Dark	17—18
Brown	20—21

Men's Wear Clips

Worsted—	
Dark	22—23
Light	33—34
Brown	25—26
Blue	39—40
Black	30—31

Women's Wear Clips

Serges—	
White	63—64
Blue	32—33
Black	28—29
Brown	37—38
Green	35—36
Light	37—38
Tan	42—43

Old Woolen Rags

Merinos—	
Coarse light	12½—13
Fine light	26 —27
Fine dark	7½— 8
Serges—	
Light	14½—15
Brown	15 —16
Blue	14½—15½
Black	9½—10
Red	18½—19
Green	14½—15
Knit—	
White	43 —44
Black	21 —22
Red	24 —25
Brown	18 —19

Skirted Worsted

Light	9½—10
Black	8½— 9
Blue	8 — 8½
Dark	5 — 5½

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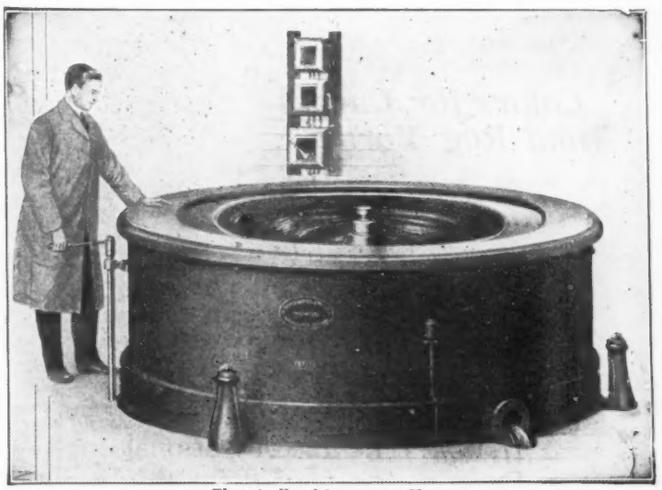

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It's proved an overwhelming success by every possible, practical and scientific test. Its introduction has created a sensation. Now the only problem is—to keep output—speed it up to the demand.

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2941

DYESTUFFS AND CHEMICALS

Chemicals Firm and Well Maintained

Seasonal Slackness in Demand in Evidence—Oil and Fat Trend Upward

Nothing but minor price fluctuations in industrial chemical market and any large buying is equally absent although the alkalis are being shipped out extensively on contract. Exports of soda ash are above normal and still on the gain. The market is more in favor of the manufacturers than of the dealers at this time.

Bleaching powder is moving in fair volume with contract price of $1.90 maintained. Materials in second hands are easier in price, it being good policy to lessen stocks of bleaching powder in the summer time. Among textile advances this week may be mentioned potash alum and oxalic acid, the only decline being potash carbonate or pearlash, used occasionally in wool scouring. Copperas is irregular, difficulty being encountered in maintaining recent advance. This material is quoted in bulk f. o. b. works $12-$13 per ton, bags and barrels at the usual premium. The prussiates and bi-chromates of soda and potash are in nominal demand at unchanged prices.

Mineral acids are without development for the week. Users are maintaining their selling schedules steadily and shipments on contract are holding up fairly well although sulphuric is moving out in smaller volume. Strength in nitrate of soda is maintaining nitric acid at its fully high level. Muriatic acid stocks are not over large and it looks as though production might fall off during the next month or two. There is a fair flow of acetic into the textile industry; but considerable improvement may occur when dyeing operations are speeded up, in cotton and wool.

The market for oils and fatty matters is creeping slowly upward, registering an advance of about 3 per cent for month and 13 per cent as compared with a year ago. Offerings are not large nor is demand extensive and this makes for a very firm situation in these commodities with strong spots visible. Tallow and lard commodities have a distinctly upward turn. Red oils are well maintained with palm oil for soap making carrying a good demand. A large percentage of recent imports were sold to arrive and there is a considerable short interest in the primary markets. Lubricating oil for mill purposes showed advance following a rise in motor oil. Production of lubricating oils for May showed a decline of 124,000 barrels while on the other hand gas and fuel oil showed an increase in production of 2,172,000 barrels.

Miscellaneous Chemicals

Alumina Sulp. com.	1 40	— 1 45
Iron Free	2 00	— 2 05
Alum, Ammonia Lmp.	3½	— 3¾
Potash, Lump	2¾	— 3½
Ammoniac, Sal. white gr.	7½	— 8
Bleach powder, per 100 lb. works, carloads	1 90	— 2 30
Blue Stone	4½	— 4¾
Calcium Arsenate	7	— 8
Chlorine, Liq. Cylinders	5½	— 8
Tanks	4	— 4¼
Copperas, ton	12 00	—18 00
Cream of Tartar	21½	— 22½
Epsom Salts, 100 lb	1 30	— 2 00
Formaldehyde Spot	9	— 9½
Glauber Salts, 100 lb.	85	— 1 50
Glycerine (C.P.) bbls.	19	— 19½
Cans	20	— 20½
Yellow Crude	17½	— 18
Hydrosulphite Conc.	24	— 25½
Lead—Brown acetate	13½	— 14
White (crystals)	14½	— 15
Lime, acetate, 100 lb.	2 75	— ...
Potassium—Bichromate	8½	— 8¾
Chlorate crystals	8½	— 9½
Permangan, tech	14½	— 16
Sodium acetate	5½	— 5¾
Bichromate	6½	— 6¾
Bisulphite, 35%	1 40	— 1 50
Nitrite	8½	— 9½
Phosphate	3¼	— 3¾
Prussiate yellow	10½	— 10¾
Sulphide, 60% fused	4	— 4¼
30% crystals	2¾	— 3
Tartar, emetic, tech	27	— ...
Tin—Crystals	38½	— 39
Bichloride, 50 deg.	16	— 16½
Oxide, bbls.	58	— 60
Zinc Dust	10	— 10½

Acids

Acetic, 28% per 100 lb.	3 00	— 3 25
Citric crystals	45½	— ...
Formic, 90%	10¾	— 11
Lactic, 22%	6	— 7
Muriatic, 18 deg. per 100 lb. in tank cars	80	— 90
Nitric, 36@42 deg. per 100 lb	4 25	— 6 00
Oxalic	10¾	— 11½
Sulphuric, 66 deg. per ton in tank cars	14 00	—15 00
Tartaric	29	— ...

Alkalies

Ammonia, aqua, 26 deg	6½	— 6¾
Borax, Cyrs. bbls.	5	— 6
Potash, carbonate, 80-85%	6	— 6½
Caustic, 88.92%	7⅝	— 7¾
Soda Ash, 58% light	1 43	— 2 44
Contract, 100 lb.	1 25	— 1 63
Bicarb, per 100 lbs.	1 90	— 2 25
Caustic, 76% per 100 lb.	3 20	— 3 90
Contract, 100 lb.	3 10	— ...
Sal. 100 lb.	1 10	— 1 25

Natural Dyes and Tannins

Fustic: Crystals	20	— 22
Liquid, 51 deg.	10	— 12
Gambier, liquid	13¾	— 14
Hematine, crystals	12	— 18
Hypernic Ext.—51 deg.	13	— 15
Indigo—Madras	...	— ...
Logwood Extract, liq. 51 deg.	7	— 8
Crystals	14	— 16
Osage Orange, Extract, 51 deg.	7	— 7½
Osage Orange Crystals	14	— 14½
Quercitron extract, 51 deg.	6	— 7
Sumac, Ext. dom., ref., 51 deg.	6½	— 7
Extract, stainless	9	— 10
Tannic Acid, tech	35	— 40

Dyestuff and Intermediates

Alpha Naphthol, ref.	90	— 95
Crude	60	— 65
Alpha Naphylamine	35	— 37
Aniline Oil	17	— 17½
Salt	24	— 26
Beta Naphthol, sublimed	55	— 60
Technical	22	— 26
Dimethylaniline	33	— 36
Metaphenylene Diamine	85	— 90
Paranitraniline	60	— 65

Oils and Soaps

Castor Oil, No. 3	16	— 17¼
Olive Oil, denatured, gal.	1 12	— 1 16
Foots	9½	— ...
Red Oil, lb.	10½	— 12
Stearic Acid, double pressed	14½	— 15
Turkey Red Oil, 50%	10	— 12

Adhesive and Sizing Materals

Albumen, blood domestic	50	— 60
Egg, technical	80	— ...
Dextrine-Potato	7¾	— 8¼
Corn, bags, 100 lb.	4 87	— 5 14
Do, bbls, 100 lb.	5 09	— 5 29
Gum, British, 100 lb.	5 12	— ...
Do, bbls.	5 39	— ...
Sago, flour	3½	— 4
Starch, corn, 100 lb.	4 07	— 4 17
Do bbls.	4 34	— 4 44
Do, thin boiling, bags, 100 lb.	4 82	— 4 97
Do, bbls.	5 09	— 5 30
Potato	6	— 6½
Rice	8	— 9
Wheat	6	— 6½
Tapioca flour	3½	— 6

Coal Tar Dyes

Direct Colors—		
Black (H-acid)	28	— 35
Black Columbia FF.	50	— 60
Blue, 2 B.	24	— 32
Blue, sky ordinary	60	— 80
Blue, 1 GL.	2 00	— 2 50
Blue, 4 GL.	2 25	— 2 00
Blue sky, FF.	95	— 1 50
Blue, Fast, RL.	1 90	— ...
Blue, Solamine	2 00	— ...
Benzo Azurine	75	— 80
Brown, C.	40	— 60
Brown, M.	70	— 90
Brown, Congo G.	85	— ...
Brown, Congo R.	80	— ...
Green, B.	75	— 90
Green, G.	1 00	— 1 05
Orange, Congo	60	— ...
Orange, Fast S.	1 85	— ...
Red Fast F.	90	— 1 00
Red, Congo	40	— 50
Benzo Purpurine 4 B.	40	— 60
Benzo Purpurine 10 B.	1 25	— 1 50
Scarlet, 4 BA.	1 50	— ...
Scarlet, 4 BS.	2 10	— ...
Scarlet 8 BS.	2 15	— ...
Scarlet, Diamine B.	1 65	— ...
Violet N.	1 10	— 1 20
Yellow, Chrysophenine	60	— 1 80
Yellow, Stilbene	90	— 95
Developing Colors—		
Black, B. H.	60	— 90
Black Zambesi	1 15	— ...
Bordeaux, Dev.	2 50	— ...
Orange, developed	2 50	— ...
Primuline	1 00	— 1 15
Red, Dev. 7 BL.	2 50	— ...
Scarlet, Dev.	2 50	— ...
Sulphur Colors—		
Black	18	— 30
Blue, cadet	80	— 95
Blue, navy	50	— 60
Brown	20	— 60
Green	55	— 1 50
Green, olive	25	— 50
Yellow	45	— 50
Basic Colors—		
Auramine	96	— 1 60
Bismarck Brown	50	— 60
Chrysoidine	40	— 65
Fuschine crystals	1 50	— 1 75
Malachite green	1 70	— ...
Methylene blue	1 25	— 1 40
Methyl violet	80	— 1 15
Rhodamine B, extone	5 50	— 6 00
Safranine	1 45	— 1 60
Victoria Blue B.	3 25	— 4 00
Acid Colors—		
Naphthol blue blk.	40	— 70
Naphth lamine black 4 B.	50	— 55
Alizarine saphirol	2 75	— 4 00
Alkali blue	3 25	— 3 50
Indigotine	75	— 1 80
Induline (water soluble)	75	— 80
Soluble Blue	3 00	— 3 75
Sulphoncyanine	70	— 95
Sulphone Blue R.	60	— 95
Patent Blue A.	2 85	— ...
Rescorcin brown	80	— 90
Guinea green	1 00	— 2 20
Wool green S.	70	— 1 70
Orange II.	24	— 30
Orange GG crys.	60	— ...
Acid fuchsine	80	— 90
Azo eosine G.	65	— 82
Crocein scarlet	1 15	— 1 30
Fast red A.	75	— 80
Azo yellow	1 35	— 1 40
F. Light Yellow 2 G.	2 00	— ...
F. Light Yellow 2 G.	3 00	— 3 25
Naphthol, yellow	1 35	— 1 40
Chrome Colors—		
Aliz. Black B.	1 50	— ...
Diamine Black PV.	70	— ...
Chrome Blue Black	48	— 54
Chrome Brown	60	— 1 25
Chrome Green	75	— 1 50
Chrome Yellow	45	— 1 10
Indigo—		
Synthetic 20% paste.	15	— 15½
Contracts	14	— 14½

Dull Market in Coal Tar Products

No Large Call for Cotton and Wool Dyes—U. S. Exporters Losing China Trade

No material change in the coal tar products market this week. Crudes, particularly benzol, are firm while intermediates are moving quietly at irregular prices. Cutting of prices fails to advance business. Those who require any particular intermediate are willing to pay fair prices and, as a matter of fact, three well known intermediates show slight advances for the week. The index figure covering a number of these bodies shows a rise from 197 last week to 203 at present time.

The various finished products of this industry are in fair rather than large demand. Basic dyes and sulphur for colors are moving to cotton mills, as well as rather extensive line of vat colors including indigo paste, the woolen mills taking on chrome colors, acid colors and larger quantities of alizarines and other imported fast shades.

It is said that the China dye market has returned to the hands of Germany. Germany is not quite so dominant in indigo as in the rest of the synthetics. In sulphur black the sharing of the business is with Japan with the odds in favor of larger control by Germany. The United States as an exporting nation seems to be fast losing ground in China. U. S. exports of natural and artificial coloring matters to China for the year 1920 amounted to 25.8 per cent of the value imported, while for the year 1923 this figure had fallen to 15.2 per cent of total value imported. The most important item in the China dye trade is indigo paste which in 1923 was approximately 50 per cent of total value of dye imports.

Dye & Chemical Notes

A direct orange color of bright yellowish shade, stated to be very fast to light and considerably faster to water, washing, perspiration, acids and alkali than the average direct color, is announced by E. I. du Pont de Nemours & Co. It is known as Pontamine Fast Orange EG. The company states that it possesses fair fastness to laundry chlorine and that diazotization changes the shade very little. The announcement adds: "When dyed on union material in a neutral bath the animal fibres are left practically unstained even at the boil. It is, therefore, used to a large extent for shading up the cotton in the one bath process for dyeing various types of union goods. It is very soluble

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were not placed on the market.

As a proof of this fact the work they are achieving in hundreds of mills the country over and the increasing demand for them by leaps and bounds is the logical result.

It is reasonable then to believe that these results in softer texture, richer color and better appearance of textiles can be as easily obtained in your mill. This is guaranteed or the trial costs you nothing.

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— Standardized and reliable, Diastafor is a perfect de-sizing agent for the textiler.

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Dyestuffs and Chemicals—Continued

and level dyeing and may be recommended for use in any make of machine in ordinary use. It may be dyed on either rawstock, yarns, or pieces and it is extensively used with other direct dyestuffs of comparable fastness for the production of browns, tans, grays and mode and fancy shades of every description. On silk, either pure or tin-weighted, it is an extremely useful color, dyeing levelly and yielding shades of very good fastness to water and washing. It may also be used on artificial silk by the usual methods."

* * *

The 40th annual outing and golf tournament of the Drysalters Club of New England was held Saturday, June 27, at the Marlboro Country Club, Marlboro, Mass. Some 120 members and guests were present coming from all parts of New England, New York and New Jersey. At the banquet in the evening the golf prizes were awarded and a collection was taken up for the benefit of the Boston Floating Hospital for which $277 was raised.

Chemists Hold Outing

Annual Event at North Caldwell, N. J.—Golf and Baseball

The annual outing of the Metropolitan Section of the American Association of Textile Chemists and Colorists was held Friday of last week at the Greenbrook Country Club, North Caldwell, N. J.

The morning was given over to golf, practically everyone participating. Two handsome loving cups were won by Dr. E. H. Killheffer, of the Newport Chemical Works, for low gross and low net.

A buffet luncheon was served in the club grill, and after lunch, baseball was the order of business. One team, known as the "Mill Guys," was captained by Herbert Grandage, while the other, called the "Dyestuffers" was led by Capt. William E. Mitchell. The latter's early training enabled him to make many spectacular plays—but to no avail as his team met with defeat at the hands of the "Mill Guys" by a score of 12—11 for seven innings.

Dinner was served in the main dining-room of the club to more than 60 members and their guests.

Business News

Bolger Bros. in New Building

Bolger Bros., 1139 E. Chelten Ave., Philadelphia, waste manufacturers, dealers and commission processors of wastes, have completed their new building, increasing their facilities to a large extent, particularly in their picker and carding departments. This concern recently acquired control of the General Textile Machinery Co., located at 1202 E. Chelten Ave., with a warehouse building at Belfield & E. Penn Sts., Germantown, and have also moved the machinery of this concern to the new plant of Bolger Bros., at 1139 E. Chelten Ave., with the result both are now located in one building and better personal supervision is possible. The General Textile Machinery Co. has installed new machine tools, having one of the most complete plants handling rebuilt textile machinery in the country.

Barber-Colman Expansion

ROCKFORD, ILL.—Lockwood, Greene & Co., engineers of Boston, Mass. have been commissioned by the Barber-Colman Company of Massachusetts to prepare plans and specifications and to supervise the construction of a 1-story branch office and service building, 100' x 120', of brick, timber and steel construction to be erected at Framingham, Mass.

Large Belt Completed

Himmelein & Bailey, Inc., Philadelphia, recently completed one of the largest transmission belts in the world, being made for the Lehigh Portland Cement Co., to be used in their Mitchell, Indiana, plant. The leather product of 500 steer hides were required to make this belt. It is 198 feet 4 inches long and 72 inches wide, three ply, weighing 4,440 pounds.

National Marking Machine Co. Removes New York Office

The National Marking Machine Co., with headquarters at Cincinnati, O., has removed its New York office from 33 West 34th street to 1507 Lowell Building, 1140-46 Broadway. John P. Knowles is in charge.

Active Wool Machinery

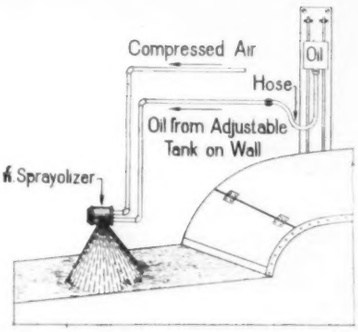
WASHINGTON, D. C., June 26, 1925.—The Department of Commerce announces the following statistics on active and idle wool machinery for May, 1925, based on reports received from 951 manufacturers, operating 1,112 mills. This is exclusive of 11 manufacturers, operating 16 mills, who failed to report for the month.

REPORT OF ACTIVE WOOL MACHINERY FOR MAY, 1925, WITH COMPARATIVE FIGURES FOR APRIL, 1925 AND MAY, 1924

Month	Looms			Sets of cards	Combs	Spinning Spindles	
	Wider than 50 in. reed space	50 in. reed space or less	Carpet and rug			Woolen	Worsted
Per cent active of total number of machines							
May, 1925	68.0	71.3	75.0	82.3	60.2	80.4	59.7
April, 1925	67.9	74.8	76.1	81.3	65.0	81.2	63.5
May, 1924	69.1	78.4	64.9	81.0	68.5	79.3	64.6
Per cent active of total hours (maximum single-shift capacity)							
May, 1925	65.8	58.9	73.1	86.2	57.9	85.2	54.0
April, 1925	68.1	68.0	75.7	88.6	67.2	87.3	60.4
May, 1924	68.1	61.9	54.0	89.2	61.1	82.7	56.7

Spraying Oil on Wool or Cotton

has numerous advantages as shown by experiments in prominent mills.



Designed for use with pickers, the

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operate with oil and compressed air. Oil can be supplied by an adjustable tank (see cut) or by a small pump. Air can be taken from service lines or from a rotary blower.

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Used in 3000 Plants

There certainly cannot be anything wrong about them. These Knorr Lubricators are winning their way on sheer merit.

One end of the positive feeding pin rests on the revolving shaft. It is kept there by the spring at the other end. The vibration of the running shaft produces a pumping action which feeds a uniform flow of lubricant only when the shaft is revolving.

Very simple isn't it? What are the advantages? Here are a few: positive lubrication that is practically automatic; very little care or attention required; considerable saving of lubricant.

The verdict of more than 3000 plants simply must be right. Send for booklet giving further information.

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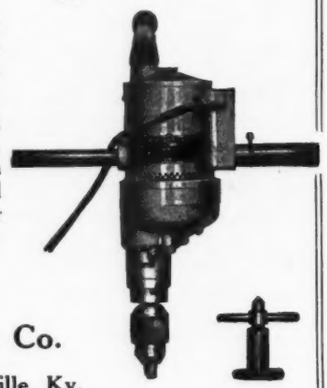
Shop Special

25 years' experience as leaders in this field enables us to offer our No. 3-U, two speed drill as a finished product.

The tool best adapted to every need of the shop where the volume of work does not justify the purchase of several sizes of drills.

An exclusive feature of the Clark drill is the special gear arrangement, which provides a low-speed, high torque drive for large drill bits, and a high speed, low torque drive for small sized bits.



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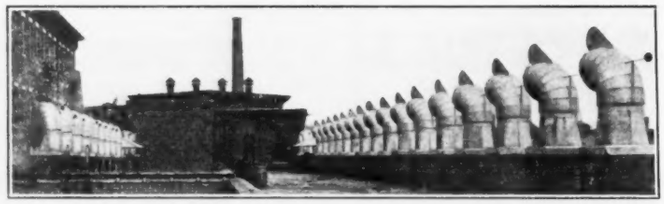

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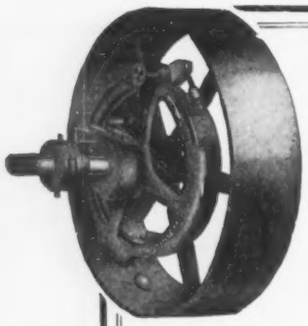

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But it pulls with the minimum of attention because the usual cause of clutch trouble—too many adjustments to be watched—does not exist in the Caldwell. One screw adjusts it. One lever controls it.

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Staple Cotton Market

(*Continued from page 137*)

whatever in new crop at the extreme basis demanded by the majority of shippers, but there has been a little more demand from spinners both north and south for cotton to be delivered during the next two or three months; as a result of this demand both basis and flat prices are a little higher but the average advance is not more than a half cent. Extra staples longer than full 1 3/16 inch are purely nominal in price, although it is possible to pick up small lots of 1¼ inch of middling grade a little below previous quotations, or within a range of 40 to 43c for hard western growths.

The feature of the Egyptian market has been the sharp advance in July and November Sak., the former advancing 305 points to $61.75, and the latter 135 points to $48.05. Much of this advance is undoubtedly speculative, although it is reported that there is a substantial demand from spinners for new crop. Strength has also been shown by Uppers, although there is much less speculative interest in them than in Sak; the August option has advanced 135 points to $33.70 and the October option 90 points to $32.70.

Current Quotations

Average prices for July-Aug. shipments of middling and strict middling hard western cotton (full lengths) are as follows:

	Middling	St. Middling
1 1/16 in.	28 to29c.	29 to30c.
1 1/16 in. to ⅛ in.	28½to29½c.	30 to31c.
1 ⅛ in.	31 to32c.	32 to33c.
1 3/16 in.	34 to36c.	35 to38c.
1 ¼ in.	40 to45c.	42 to46c.

World Wool Retentions

(*Continued from page 62*)

duplications by 125 million pounds, thus charging only 55 million pounds to the consumption figures of Turkish wool. Sir Arthur says that one must figure that at least 75% of the Turkish production has been retained for home consumption; 75% of 180 million is 135 million. Thus there is only in controversy here a matter of 10 million pounds of Turkish wool.

Sir Arthur's references therefore to the inclusion by me of Turkish production in the production figures, and his further question: "Will Mr. Goldman next introduce the Russion clip and leave out the Russian consumption?" are wholly without justification. I have at all times stated that I was considering Russia out of the world so far as wool production and consumption are concerned.

Limits to Controversy

As these are the only matters in controversy between us, it may be stated definitely now that Sir Arthur Goldfinch has inadvertently overestimated the machinery consumption for these three years by more than 700 million pounds. I use the word "inadvertently" advisedly, because I am convinced that Sir Arthur Goldfinch was at all times seeking to have his figures reflect the actual situation. His three points of error are as follows:

1. He made no allowance whatever for the restocking of Europe.

2. He figured the Spanish consumption for three years at 150 million pounds per year, whereas the actual consumption was about half of that. As I have already explained this was originally due to a mistake in the Department of Commerce figures as to Spanish production.

3. He has figured the American consumption on the basis of the Department of Agriculture consumption reports plus a percentage to cover those not reporting, instead of taking the retention figures plus reduction in stocks.

And it is these three items that are responsible for the difference of more than 700 million pounds in Sir Arthur Goldfinch's estimates.

Let me at this point re-emphasize that Sir Arthur Goldfinch has at all times based his statement that we had eaten into the world supplies of wool to the extent of one-half year's clip since Jan. 1, 1921, on the figures of machinery consumption which he has furnished to the wool trade, and on nothing else. He never even hinted that there was any other factor to consider.

In the various tables of the machinery consumption of the world Sir Arthur has included the following countries: United States, United Kingdom, France, Germany, Italy, Belgium, Poland, Czecho-Slovakia, Spain, Austria and Japan; and he has then allowed 60 million pounds per year for the machinery consumption of other countries in Europe, and 60 million pounds per year for other countries elsewhere, a total of 120 million pounds per year. I have at all times accepted Sir Arthur Goldfinch's estimates with respect to these smaller consuming countries because I have no information with regard to the matter one way or the other. It is passing strange, and it may be purely a coincidence, that just at the time that Sir Arthur Goldfinch finally awakens to the fact that he can no longer maintain that his figures as promulgated by him from year to year as to the machinery consumption of the world are correct, he should in his article of June 6 now draw attention to the fact that these small countries, to which he had assigned an annual consumption of 120 million pounds per year, were actually retaining between 300 and 400 million pounds each per year, and that, therefore, we must include all of the retentions of these 22 small countries in order to permit him to make good his previous estimates of the world's consumption of wool.

Sir Arthur says: "I have confessed to some lapse in this direction myself, but I was then using a different method, and I suggest to Mr. Goldman that sufficient light has now been cast upon this matter to make it imperative to deal on some intelligible system with the 22 countries detailed in the above table."

I confess that when I read the paragraph that I have just quoted I got quite a "rise" out of it. Now what are the facts?

The "World Balance Sheets"

In his TEXTILE WORLD article of April 25 Sir Arthur Goldfinch, undoubtedly scenting the difficulty of maintaining his original estimates, introduces for the first time world wool balance sheets for the years 1921, 1922 and 1923, in which he introduces the excess imports, the excess exports, the clip, and increases or decreases of stock for the entire world. And in introducing these he says: "I have concentrated in the past on matters directly affecting the international wool market, and I am satisfied that the figures I have compiled covered all the requirements from that point of view, which still remains immensely more important than any other point of view. I am now taking in hand the task of compiling a wool balance sheet dealing with every wool country separately and with the world as a whole. I attach as an appendix to this article my first attempt of such a balance sheet for the years 1921, 1922 and 1923. It contains all the data now publicly available, but I hope before the end of this year by further research to come much nearer to a perfectly accurate statement." He then goes on to say: "I do not put forward the resulting figures of consumption as being correct. I believe that in respect of 1922 and 1923 they are decidedly in excess of the truth and substantial deductions ought to be made to correct errors and duplications."

In his last article of June 6 he calls attention to the fact that "on the basis of machinery consumption a substantial part of this consumption in the minor countries would have to be omitted—Roumania, Jugoslavia, Bulgaria, Algeria, Greece, Persia—which appear to retain more than 200 million pounds per annum—have a very trifling machinery equipment. By far the greater part of this wool is treated by hand for local use."

Two questions obviously occur to me at this juncture:

1. Why has the world's leading wool authority through all these years completely ignored this important factor in the world's consumption?

2. Having ignored the fact that these countries have apparently consumed upward of 250 million pounds more wool annually than he was crediting them with, what new information concerning their consumption causes him now to include their full retentions?

And a third question: Does Sir Arthur Goldfinch actually believe that any such amount of wool as 250 million pounds per annum is being treated by hand for local use in this 20th century in these countries?

Sir Arthur in calling attention to the discrepancy between the "excess imports" and "excess exports" shown in his wool balance sheets shows that this is nothing extraordinary, because in the prewar years 1909–13 the aggregate of the official import figures for wool exceeded the aggregate of the official export figures by a yearly average of nearly 280 million pounds. In his wool balance sheet for 1922 the excess of imports over exports was 342 million pounds, and in 1923, 124 million pounds.

But doesn't this excess of imports over exports year after year suggest to Sir Arthur Goldfinch that he ought to be continuing his research into this question before he now puts forward any claim with regard to the retentions of these small countries as an offset to the deficiency in his original estimates?

Imports Versus Exports

We can well understand that most Governments are concerned as to what passes through the custom houses when commodities enter a country. Is it possible that some are far less concerned about exports? Obviously, there may be exports that would go to reduce the totals of wool retained by these wool exporting countries, because a great many of them are wool exporting countries. When we go into individual figures they look peculiar to us. Roumania retained 16 million pounds in 1921, 22 in 1922 and 57 million pounds in 1923. What did she do with it? Sweden has a third more people than Bulgaria, it is a northern country and highly civilized, and yet Bulgaria uses 20 million pounds of wool as against Sweden's 17½.

Sir Arthur calls attention to the fact that perhaps the production of these countries has been exaggerated. That may be so, but he must admit on the other hand that the production of other countries is just as likely to have been underestimated.

However, it is not my purpose to enter into any controversy with Sir Arthur Goldfinch in relation to these countries, other than to point out that he should have adhered to his original intention to devote this year to research with regard to what part of the retentions of these countries should properly be included in the annual consumption of wool of the world, and not appropriate the sum total of these countries' apparent retentions to make good the deficiency in his previous estimates, when he himself in his article of April 25 has called attention to the fact that these figures should be accepted with reserve.

Belding Stock Offered

(*Continued from page 65*)

purchase of the stock of that Company.

"Following negotiations of several weeks, on June 12th an agreement was reached between Edward B. Smith & Co., and Belding Bros. & Co., whereby the Bankers agreed to purchase not less than 75% of the shares of Common Stock, and of the shares of the preferred stock outstanding.

"At a special meeting of the Board of Directors of Belding Bros. & Co., held immediately thereafter, over 50% of the stock was pledged by members of the Belding family, and resolutions were passed recommending to

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OVERSEER WEAVING WOOLEN OR WORSTED MILL. Position wanted by man 41 years of age, American, married. Worked on all kinds worsted and woolen goods. Familiar with Crompton & Knowles looms. Good references.
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OVERSEER WEAVING IN WLN. OR WST. MILL. Position wanted by man 41 years of age, American, married. Worked on about everything in woolen and worsted line. Familiar with Crompton, Knowles and magazine looms. Good recommendations.
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BLEACHER AND TINTER ON UNDERWEAR. Position wanted by man 36 years of age, American, married. Worked on all classes of underwear. Familiar with all makes of machinery including two cylinder nappers. Good references.
O. B. 192, Textile World, Boston, Mass.

ASST. SUPERINTENDENT IN WOOLEN MILL. Position wanted by man 25 years of age, American, single. Worked on coarse, medium and fine cotton yarns, woolen dress goods, etc. Good recommendations.
O. B. 193, Textile World, Boston, Mass.

OVERSEER CARDING & SPINNING IN WOOLEN MILL. Position wanted by man 47 years of age, American, married. Worked on all kinds of woolen goods. Familiar with all makes carding and spinning machinery. Good recommendations.
O. B. 194, Textile World, Boston, Mass.

FOREMAN OF FINISHING—SEWING MACHINE ADJUSTER—OR CUTTER. Position wanted by man 34 years of age, American, married. Worked on overalls, hosiery and underwear. Familiar with Singer, Union special, Metropolitan and Merrow machines. Good recommendations.
O. B. 197, Textile World, Boston, Mass.

OVERSEER COTTON RING SPINNING. Position wanted by man 31 years of age, American, married. Worked on spun silk yarns, raw silk yarns, cotton yarns and tire yarns. Familiar with all makes of spinning frames. Good recommendations.
O. B. 200, Textile World, Boston, Mass.

OVERSEER SPINNING IN WOOLEN MILL. Position wanted by man 38 years of age, American, married. Worked on all kinds yarn from ⅝ to 7 run. Familiar with Davis & Furber mules. Good recommendations.
O. B. 201, Textile World, Boston, Mass.

OVERSEER CARDING IN WOOLEN MILL. Position wanted by man 42 years of age, American, married. Worked on almost everything in the woolen line. Familiar with all makes carding machinery. Good recommendations.
O. B. 202, Textile World, Boston, Mass.

MANAGER OR SUPT. OF WOOLEN MILL. Position wanted by man 48 years of age, American, married. Worked on all kinds woolens for men's and women's wear. Familiar with all machinery used in woolen mill. Good recommendations.
O. B. 204, Textile World, Boston, Mass.

the other stockholders that they accept the same offer.

"The response to the Circular Letter mailed to each stockholder, and signed by the entire Board of Directors has insured the carrying out of the proposed plan, for there are already in hand more than sufficient pledges to enable the Directors to deliver the necessary 75% of the stock."

Concerning the future plans of the bankers in taking over the control of the company and the new stock issue to be offered to the public, B. Belding said that the present aims and policies of the company would continue as in the past and as nearly as possible under the same management.

HARTFORD, CONN., July 1.—Belding Bros. & Co. stockholders will hold a special meeting in Rockville, July 14, to act on a proposal to change the present common stock to stock of no par value and to exchange the present common on a ratio of six shares of new no par for each share of present common. The amount of capital to be represented by the no par stock will be decided upon. A change in by-laws to increase the directors from seven to nine, and the election of two additional directors will take place at the same time.

OBITUARY

Frank Lawrence Sheldon

F. P. Sheldon & Son, Engineers and Architects, Providence, R. I., announce the death of Frank Lawrence Sheldon, Engineer, associated with the company, on June 22, at his home in Providence following a brief illness.

Mr. Sheldon was born in Providence on August 1, 1883, where he attended the public schools; later he prepared for college at the Riverview Military Academy, Poughkeepsie, N. Y., and then entered Rensselaer Polytechnic Institute as a student of Civil Engineering.

In 1907, he entered his father's office with which he was connected up to the time of his death, his work being interwoven with the various phases in the design, erection, equipment and operation of manufacturing and industrial plants.

He was a member of the American Society of Civil Engineers, of The Rensselaer Society of Engineers and of the American Society for Testing Materials. Mr. Sheldon served on the Committee on Textile Materials of the latter organization, being familiar with improved methods of cotton manufacture and having done considerable textile research work. He was also a member of the Providence Engineering Society. He was an ardent sportsman, being keenly interested in fishing, hunting and boating, and was a member of the R. I. Fish and Game Association.

Mr. Sheldon is survived by his widow, Jetty L. (Wilson) Sheldon; a son, Frank L. Sheldon, Jr.; his mother, Mrs. Frank P. Sheldon; a sister, Mrs. James B. Barrett; and an older brother, Arthur N. Sheldon, of the firm of F. P. Sheldon & Son.

The TEXTILE CLEARING HOUSE

Men Wanted

Men Wanted

LOOM FIXERS

Experienced men who understand Jacquard and Terry work.

Excellent opportunity for advancement, and a future to capable applicants. Give full details as to age, experience, etc.

Address Adv. 492, Textile World, 828 Drexel Bldg., Phila., Pa.

Wanted
MANAGER FOR THROWING PLANT.

The man we are looking for probably has a good job now. We want to offer him a better one. Our plant, located in the east, is large and growing fast. It is modern in every respect, well balanced, and fully equipped to throw artificial silk. We want a man of experience who can turn out the highest quality of work and make those under him do the same. He must be especially capable in handling labor. Experience in weaving and knitting (particularly artificial silk) would be a big advantage but is not absolutely necessary.

Probably very few men would fit our requirements but the one who does will find a very good opportunity. If you feel that you are the man, write giving your age, experience in detail, references, salary desired, and other information of interest.

Address Adv. 518, Textile World, 334 Fourth Ave., New York.

WANTED

A Salesman Chemist or Factory Man who is familiar with the manufacture and composition of textile oils and softeners and who has real selling abilities to place these products with the textile mills is wanted by an old established manufacturing house, who is identified with the silk and artificial silk manufacturing trade. To the party who can make good will arrange a liberal basis of compensation.

Address Adv. 511, Textile World, 334 Fourth Ave., New York.

PRINTERS EXPERIENCED ON EIGHT COLOR WORK wanted for textile mill near New York City, open shop. State experience, age and wage desired.

Address Adv. 520, Textile World, 334 Fourth Ave., New York.

WANTED

Boss Carder, we specialize commercial yarn for knitting. Must understand blending as well as carding. Good pay to the right man. Five sets cards, 3—60s and 2—48s.

Address Adv. 525, Textile World, 334 Fourth Ave., New York.

Position Wanted

SUPT. or MANAGER
With thorough technical and practical experience in all preparation, and weaving of Broad Silks, Rayons and fancy cottons or Mixed Goods, plain, fancy, box and jacquard looms. Wishes to make a change.
Address Adv. 498, Textile World, 334 Fourth Ave., New York

DESIGNER
Open for position on woolens or worsteds. Fine and medium grade, plain and fancy suitings, coatings, dress goods, overcoatings and cloakings; Textile School graduate, 6 yrs. mill experience. Best of references.
Address Adv. 510, Textile World, 334 Fourth Ave., New York.

Wanted
First-Class Hosiery Fixer on Banner Fancy Work.
Steady position—chance to advance. State experience and wages expected to start.
Address Adv. 513, Textile World, 334 Fourth Ave., New York.

Side Line Salesmen Wanted
Imported Specialty used by Textile Mills in Dyeing and Scouring. Can be sold considerably cheaper than corresponding domestic product. Liberal commission paid on original and repeat orders.
Address Adv. 482, Textile World, 334 Fourth Ave., New York

TEXTILE CLEARING HOUSE

	1 inch	2 inches
1 time	$3.50	$7.00
2 times	7.00	13.20
3 times	10.50	19.20
4 times	13.20	24.80

	3 inches	4 inches
1 time	$10.50	$13.20
2 times	19.20	24.80
3 times	27.90	36.00
4 times	36.00	48.00

Business Opportunities

EXPORT HOSIERY

An old established Export House, in business over 60 years, now acting as Foreign Selling Agents for several leading Hosiery and Piece Goods Manufacturers wishes to make additional connections with Manufacturers of

Cotton & Mercerized Socks for Children.
Misses' Ribbed Hosiery (26 to 28 ounce.)
Youths' English Rib Knee Hose with turndown tops.
Seamless Cotton Hosiery for Men & Women.
200 & 220 needle mock seam Mercerized Hosiery for Women.
176, 200 & 220 needle fibre silk Hosiery for Women.
Men's Fancy Socks in mercerized & fibre-plaited qualities.

Among the features of our Service are the method by which the value of merchandise is promptly available upon making shipment and insurance against credit loss.

Address Adv. 517, Textile World, 334 Fourth Ave., New York.

WOOL YARN—FOR SALE

3500 lbs. all wool yarn on Dresser Spools.
6500 lbs. all wool yarn on Bobbins.
50 cents per lb.

(This offering is an opportunity for some one with a few spare looms, which can be put to work weaving this yarn. Figuring a manufacturing shrinkage of 10% it would net a weaver 9,000 yards of finished goods. Even if the goods are sold to a jobber at a jobbers price there is a handsome sum of money for some one.)

A telegram at our expense will hold this lot of yarn for your inspection.

T. L. CONLAN
River Street Tel. 1725 No Adams, Mass

DYER AND COLOR CHEMIST

Now employed, would like to be retained by a few more mills in Southern New England as technical advisor on all dyeing problems.

Address Adv. 483, Textile World, 334 Fourth Ave., New York.

Wildman and Tompkins Fabrics Wanted.

Desire to place contract order on fibre underwear cloths. Will give out commission knitting, buy outright or finance mill. Consider a mechanic for partner. Have plenty of sock.

Address Adv. 528, Textile World, 334 Fourth Ave., New York.

SEWING THREAD EXPERT

With thorough practical and technical experience and a experienced machinist, wishes financier-partner. (Commercial man) for founding sewing thread mill.

Address Adv. 459, Textile World, 334 Fourth Ave., New York

Men Wanted

Wanted

DESIGNER, for full line of Textile Finishing Machinery.
State experience and salary expected.

Address Adv. 313, Textile World, 334 Fourth Ave., New York.

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DESIGNER, for full line of Textile Finishing Machinery.
State experience and salary expected.

Address Adv. 313, Textile World, 334 Fourth Ave., New York.

WANTED

3¾" Scott & Williams Model-K Machines, without cylinders and dials.

Address Adv. 535, Textile World, 828 Drexel Bldg., Phila., Pa.

Business Opportunities

For Sale

16 acres of land, 150,000 square feet manufacturing floor space, buildings sprinklered, suitable for textile manufacturing plant. Address,

FOWLER LUMBER & PLYWOOD COMPANY.
P. O. Box 194, Macon, Georgia.

The Ideal Location for a Mill is Fairmont, West Virginia

Cheapest power rates in U. S. Free sites on B. & O, Pennsylvania and New York Central Railroads. Best steam coal $1.90 per ton delivered. Substantial assistance rendered to Industries. Low tax rates. Large and low-rate undeveloped labor market. Production and distribution costs are lower in this coal mining city of 32,000. Write:

Fairmont Chamber of Commerce, Fairmont, West Virginia.

BOBBINS—SPOOLS

WE BUY and Sell New or Used Bobbins, Spools, Skewers, Butts, Shuttles, Twisters, and other Sundries.

JOHN LOTZ,
2337 N. 7th St., Philadelphia, Pa.

SURPLUS YARNS

We purchase yarns of all kinds. Large and small lots. Send sample, state price and quantity.

SCIENTIFIC TEXTILE CO.,
MORRISVILLE, PA.

FACTORY FOR RENT

Two-story and brick factory, inside measurement 30 x 60 ft. each floor with annex 15 x 63 ft. Adapted for any manufacturing purpose. Electric power and light and reasonable rent. Help good. Formerly Shirt and Ladies' Underwear Knitting Business.

Apply to J. F. OTTERSTETTER
Limerick, Pa.

Men Wanted

FOR SALE

Patents on revolutionary improvements in cotton machinery
COTTON GIN OPENER—CLEANER
A cleaner, longer staple at a cost below that now possible.

Address Adv. 527, Textile World, 334 Fourth Ave, New York

WE WANT TO BUY A WOOLEN CARD

48 or 60" cyl. Prefer a brest 1 Breaker and one Finisher, with Bramwell feed, Apperly feed and condenser. Must be seen running. Quote your lowest price.

T. L. CONLAN,
River Street, North Adams, Mass.

WANTED

26" Tompkin's Cylinders with spreaders and bows.
28 gauge mould for 22" to 26" cylinders.
1 Singer Buttonhole Machine with cord attachment, style No. 71-46.

Address Adv. 524, Textile World, 334 Fourth Ave., New York.

Wanted

Universal Winding Machine
to wind from Cone or Skein to Bottle Bobbin

Address Adv. 505, Textile World 828 Drexel Bldg., Phila, Pa.

Wanted

Banner and S. & W. 2" to 3¼",

State needles, model, price.

Address Adv. 526, Textile World, 334 Fourth Ave., New York.

Wanted

For Scott & Williams Model-K Machine, thirty-four 3½"—176 needle cylinders and dials.

MELROSE HOSIERY MILLS,
High Point, N. C.

Wanted

39 & 42 gauge Full Fashioned Hosiery Machines.

Address Adv. 490, Textile World, 828 Drexel Bldg., Phila., Pa.